

PUBLICATIONS of DIST. PROF. T. SARPKAYA

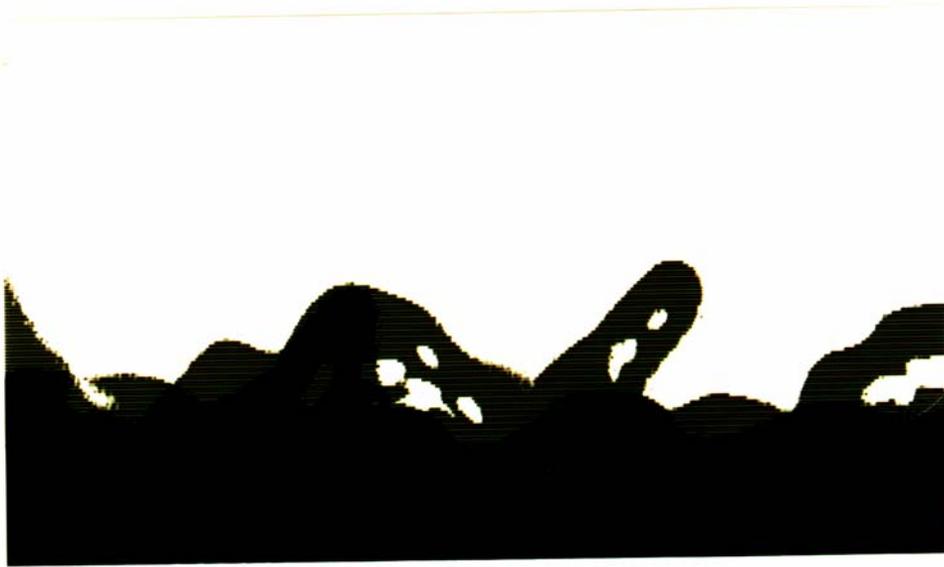
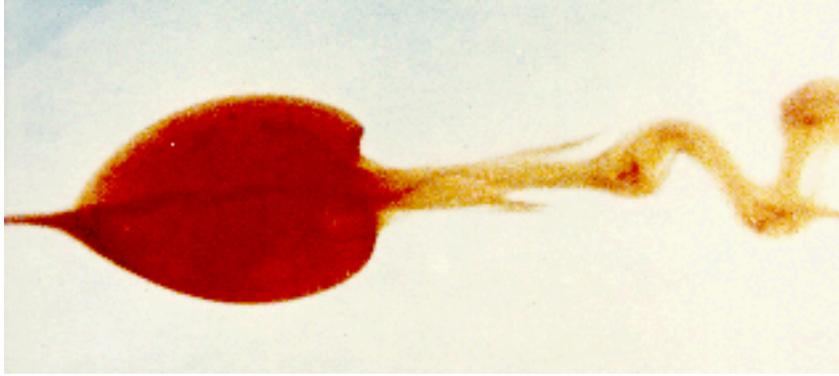


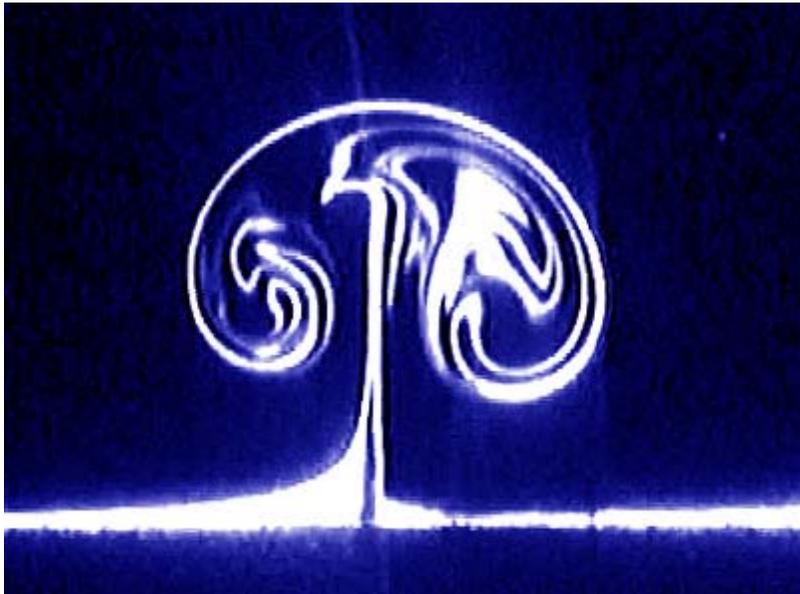
Figure 7b. Multiple filaments in two planes in Eulerian frame of reference
(jet velocity = 6.2 m/s, frame rate = 5,000 fr/s).



Figure 7c. Single filament in Eulerian system
(PIV with CDC camera, exposure = 7 nano-seconds).



Vortex Breakdown



Taylor-Görtler instability in an oscillating flow over a cylinder

Sarpkaya, T., (1954), "Deflection of a Jet From a Symmetrically Placed U-Shaped Obstacle," *Revue de la Faculte des Sciences de L'Universite d'Istanbul, Series A* Vol. **19**, pp. 165-174.

Sarpkaya, T., (1955), Discussion of "The Application of the Relaxation Technique in Fluid Mechanics," *Transactions of American Society of Civil Engineers*, Vol. **120**, pp. 681-684.

- Sarpkaya, T., (1957), Discussion of "Open Channels with Nonuniform Discharge," *Transactions of American Society of Civil Engineers*, Vol. **120**, pp. 275-278.
- Sarpkaya, T., (1957), Discussion of "Butterfly Valve Flow Characteristics," *Proceedings of American Society of Civil Engineers*, Paper No. 1348, pp. 31-52.
- Sarpkaya, T., (1957), "Oscillatory Gravity Waves in Flowing Water," *Transactions of American Society of Civil Engineers*, Vol. **122**, pp. 564-586.**
- Sarpkaya, T., (1958), "Computation of Sequent Depth in Hydraulic Jump Simplified," *Civil Engineering*, Vol. **28**, p. 524.
- Sarpkaya, T., (1959), "The Effect of Unsteadiness on Hydrodynamic Resistances and on Mass Oscillations in Surge Tanks," *Transactions of the Engineering Institute of Canada*, Vol. **3**, pp. 96-99.
- Sarpkaya, T., (1959), "Oblique Impact of a Bounded Stream on a Plane Lamina," *Journal of Franklin Institute*, Vol. **267**, pp. 229-242.**
- Sarpkaya, T., (1960), "Added Mass of Lenses and Parallel Plates," *Journal of the Engineering Mechanics Division, ASCE*, Vol. **86**, pp. 137-150.
- Sarpkaya, T., (1961), "Flow of Non-Newtonian Fluids in a Magnetic Field," *Journal of the American Institute of Chemical Engineers*, Vol. **7**, pp. 324-328.
- Sarpkaya, T., (1961), "Propagation of Surges in Highly Deformable Systems," *Developments in Mechanics*, Vol. **1**, pp. 451-459, Plenum Press.
- Sarpkaya, T., (1961), "Torque and Cavitation Characteristics of Butterfly Valves," *Journal of Applied Mechanics*, Vol. **28**, pp. 511-518.**
- Sarpkaya, T., (1962), "Unsteady Flow of Fluids in Closed Systems," *Journal of the Engineering Mechanics Division, ASCE*, Vol. **88**, pp. 1-15.
- Sarpkaya, T., (1963), "A Bistable Vortex Oscillator," *Journal of Applied Mechanics*, Vol. **30**, pp. 629-630.
- Sarpkaya, T., (1963), "Lift, Drag and Added Mass Coefficients for a Circular Cylinder Immersed in a Time-Dependent Flow," *Journal of Applied Mechanics*, Vol. **30**, pp. 13-18.**
- Sarpkaya, T., (1963), "Waterproofing Electrical resistance Strain Gages," Technical Note *American Society for Testing and Materials*, Vol. **3**, No. 4, pp. 279-280.
- Sarpkaya, T. and Garrison, C. J., (1963), "Vortex Formation and Resistance in Unsteady Flow," *Journal of Applied Mechanics*, Vol. **30**, pp. 16-24.

Sarpkaya, T., (1965), "Unsteady Flow Over Bluff Bodies," *Developments in Mechanics*, Vol. 1, pp. 45-68, Pergamon Press.

Sarpkaya, T., (1966), "Experimental Determination of the Critical Reynolds Number for Pulsating Poiseuille Flow," *Journal of Basic Engineering, ASME*, Vol. 88, pp. 589-598.

Sarpkaya, T., (1966), "Impulsive and Accelerated Flow About Cylinders," *Proceedings of the Symposium on Ground Wind Load Problems in Relation to Launch Vehicles*, NASA Langley Research Center. Vol. 1, pp. 23.1-23.23.

Sarpkaya, T., (1966), "Separated Flow About Lifting Bodies and Impulsive Flow About Cylinders," *AIAA Journal*, Vol. 4, pp. 414-420.

Sarpkaya, T., (1967), "Forced and Periodic Vortex Breakdown," *Journal of Basic Engineering, ASME*, Vol. 89, pp. 609-616.

Sarpkaya, T. and Kirshner, J. M., (1967), Report on the Second Cranfield Fluidics Conference *Advances in Fluidics, ASME*, Vol. 1, pp. 218-232.

Sarpkaya, T. Goto, J. M. and Kirshner J. M., (1967), "A Theoretical and Experimental Study of Vortex Rate Gyro," *Advances in Fluidics, ASME*, Vol. 1, pp. 218-232.

Sarpkaya, T., (1968), "Separated Unsteady Flow About a Rotating Plate," *Developments in Mechanics*, Vol. 4, pp. 1485-1499.

Sarpkaya, T., (1968), "An Analytical Study of Separated Flow About Circular Cylinders," *Journal of Basic Engineering, ASME*, Vol. 90, pp. 511-520.

Sarpkaya, T., (1969), "The Performance Characteristics of Geometrically Similar Amplifiers," *Journal of Basic Engineering, ASME*, Vol. 91, pp. 257-263.

Sarpkaya, T., (1969), "On Time-Dependent Flows of Incompressible Fluids," *Developments in Mechanics*, Vol. 5, pp. 985-1001.

Sarpkaya, T., (1969), "Separated Flow About a Circular Cylinder," *Physics of Fluids*, Vol. 12, pp. 1-12.

Sarpkaya, T., Pavlin P. and Phasook S., (1969), "A Theoretical and Experimental Investigation of a Confined Vortex Oscillator," *Journal of Basic Engineering, ASME*, Vol. 91, pp. 750-754.

Sarpkaya, T. (Ed.), (1970), *Proceedings of the 1970 Heat Transfer and Fluid Mechanics Institute*, Stanford University Press, 370.

- Sarpkaya, T., (1970), *Proceedings of the Government Fluidics Coordination Group Symposium* (Editor), **(Confidential)** Naval Postgraduate School, Monterey, CA.
- Sarpkaya, T., (1970), "Discussion of Crest Losses for Two-Day Drop Inlet," *Journal of Hydraulics Division, ASCE.*, Vol. **96**, pp. 589-591.
- Sarpkaya, T. and Richardson D.C., (1970), "Turbulent Jet Over an Inclined Wall," *Journal of Basic Engineering, ASME*, Vol. **92**, pp. 287-293.
- Sarpkaya, T. Weeks, S.B., and Hiriart, G.L., (1970), "A Theoretical and Experimental Investigation of the Interaction of Jets in Beam Deflection Type Fluidic Elements," *Proceedings of the Fourth Cranfield Fluidic Conference*, Coventry Vol. **3**, pp. 33-46.
- Sarpkaya, T., (1971), "Vortex Breakdown in Swirling Conical Flows," *AIAA Journal*, Vol. **9**, pp. 1792-1799.**
- Sarpkaya, T., (1971), "On Mean Motion, Jet Turbulence and Noise in Proportional Amplifiers," *Proceedings of the International Federation of Automatic Controls*, Vol. **2**, pp. 1-7.
- Sarpkaya, T., (1971), "On a New Vortex Angular Rate Sensor," *Proceedings of the International Federation of Automatic Controls*, Vol. **2**, pp. 86-91.
- Sarpkaya, T. and Rainey, P.G., (1971), "Stagnation Point Flow of a Second Order Viscoelastic Fluid," *Acta Mechanica*, Vol. **11**, pp. 237-246.**
- Sarpkaya, T., (1971), "On Stationary and Traveling Vortex Breakdowns," *Journal of Fluid Mechanics*, Vol. **45**, pp. 545-559.**
- Sarpkaya, T., (1972), "Of Fluid Mechanics and Fluidics and of Analysis and Physical Insight," *Proceedings of the 5th Cranfield Fluidics Conference*, Vol. **5**, pp. 33-54.**
- Sarpkaya, T., (1972), Discussion of "the Switching Dynamics of Bistable Amplifiers," *Journal of Dynamic Systems Measurement and Controls, ASME*, Vol. **1**, pp. 30-31.
- Sarpkaya, T., (1973), "A Pneumatic Vortex Angular Rate Sensor--Analysis and Experiments," *Automatica*, Vol. **9**, pp. 29-34.
- Sarpkaya, T., (1973), "Lift and Drag Measurements in Dilute Polyox Solutions," *Nature*, Vol. **241**, No. 5385, pp. 114-115.
- Sarpkaya, T., (1973), "On the Art of Advancing the Science of Fluidics," *Journal of Dynamic Systems, Measurements and Controls, ASME*, Vol. **95**, pp. 110-113.

- Sarpkaya, T., (1973), "On a Stagnation Condition for Combining and Branching Inviscid Flows," *Journal of Fluid Mechanics*, Vol. 59, pp. 561-570.**
- Sarpkaya, T., Rainey, P.G. and Kell, R.E., (1973), "Flow of Dilute Polymer Solutions About Circular Cylinders," *Journal of Fluid Mechanics*, Vol. 57, pp. 177-208.**
- Sarpkaya, T., (1974), "Effect of Adverse Pressure Gradient on Vortex Breakdown," *AIAA Journal*, Vol. 12, pp. 602-607.**
- Sarpkaya, T., (1974), "Wave Forces and Periodic Flow About Cylinders," *Proceedings of the 14th International Conference on Coastal Engineering*, Copenhagen, Vol. 1, pp. 271-274.
- Sarpkaya, T., (1974), "On the Performance of Hydrofoils in Dilute Polyox Solutions," *Proceedings of the International Conference on Drag Reduction*, Vol. 1, pp. 1-13, Univ. of Cambridge, BRHA Press.
- Sarpkaya, T., (1974), "Effect of the Adverse Pressure Gradient on Vortex Breakdown," *AIAA Journal*, Vol. 12, pp. 602-607.**
- Sarpkaya, T., (1975), "Analysis of Curved Target Type Thrust Reversers," *AIAA Journal*, Vol. 13, pp. 185-192.
- Sarpkaya, T., (1975), "An Inviscid Model of Two-Dimensional Vortex Shedding for Transient and Asymptotically Steady Flow Over an Inclined Plate," *Journal of Fluid Mechanics*, Vol. 68, pp. 109-130.**
- Sarpkaya, T., (1975), "A Note On the Stability of Developing Laminar Pipe Flow Subjected to Axisymmetric and Non-axisymmetric Disturbances," *Journal of Fluid Mechanics*, Vol. 68, pp. 345-352.**
- Sarpkaya, T., (1975), "Finite Element Analysis of Jet Impingement on Axisymmetric Curved Deflectors," *Finite Elements in Fluids*, Vol. 1, pp. 265-279. John Wiley & Sons.
- Sarpkaya, T., (1976), Comment on "Theoretical Study of Lift-Generated Vortex Wakes Designed to Avoid rollup," *AIAA Journal*, Vol. 13, No 12, pp. 1680-1681.
- Sarpkaya, T., (1976), "Forces on Cylinders Near a Plane Boundary in a Sinusoidally Oscillating Fluid," *Journal of Fluids Engineering, ASME*, Vol. 98, pp. 499-505.

- Sarpkaya, T., (1977), "Vortex Shedding and Resistance in Harmonic Flow About Smooth and Rough Cylinders at High Reynolds Numbers," Report No. NPS-59SL76021, Naval Postgraduate School, Monterey,
- Sarpkaya, T., (1976), "Vortex Shedding and Resistance in Harmonic Flow about Smooth and Rough Circular Cylinders," *Proceedings of the International Conference on the Behavior of Offshore Structures*, The Norwegian Institute of Technology, BOSS '76, Vol. 1, pp. 220-235.
- Sarpkaya, T., (1977), "In-Line and Transverse Forces on Cylinders in Oscillatory Flow at High Reynolds Numbers," *Journal of Ship Research* Vol. 21, 200-216.
- Sarpkaya, T., (1978), "Hydrodynamic Resistance of Roughened Cylinders in Harmonic Flow," *Journal of the Royal Institute of Naval Architects*, Vol. 120, 41-55.
- Sarpkaya, T., (1978), Comments on "the Theoretical Study of Lift Generated Vortex Wakes Designed to Avoid Rollup," *AIAA Journal*, Vol. 13, pp. 1680-1681.
- Sarpkaya, T., (1978), "Fluid Forces on Oscillating Cylinders," *Journal of Waterway, etc. Div., ASCE, WW4*, Vol. 104, pp. 275 -290.
- Sarpkaya, T., (1979), "Wave Impact Loads on Cylinders," *Society of Petroleum Engineers Journal*, Vol. 9, pp. 29-36.
- Sarpkaya, T., (1979), "Acceleration Forces Exerted on Finite Cylinders by an Oscillating Air Bubble," *Transactions of the American Nuclear Society*, Vol. 29, pp. 429-430
- Sarpkaya, T., (1979), "Vortex Induced Oscillations,"-- A Selective Review. *Journal of Applied Mechanics, ASME*, Vol. 46, pp. 241-258.
- Sarpkaya, T. and Shoaff, R.L., (1979a), "Inviscid Model of Two-Dimensional Vortex Shedding by a Circular Cylinder," *AIAA Journal*, Vol. 17, pp. 1193-1200.
- Sarpkaya, T. and Shoaff, R.L., (1979b), "Numerical Modeling of Vortex-Induced Oscillations," *Proceedings of the Specialty Conference on Civil Engineering in the Oceans IV*, Vol. 1, pp. 504-515.
- Sarpkaya, T. and Rajabi, F., (1979), "Hydrodynamic Drag on Bottom-Mounted Smooth and Rough Cylinders in Periodic Flow," *Proceedings of the Offshore Technology Conference*, OTC-3761.

Sarpkaya, T. and Rajabi, F., (1979), "Dynamic Response of Piles to Vortex Shedding in Oscillating Flows," *Proceedings of the Offshore Technology Conference*, OTC-3647.

Sarpkaya, T., (1980), "Hydroelastic Response of Cylinders in Harmonic Flow," *Journal of the Royal Institution of Naval Architects*, Vol. 3, 103-110.

Sarpkaya, T. and Cinar, M., (1980), "Hydrodynamic Interference of Two Cylinders in Harmonic Flow," *Proceedings of the Offshore Technology Conference*, OTC-3775.

Sarpkaya, T., (1981), "A Critical Assessment of Morison's Equation and Its Applications," *Proceedings of the International Conference on Hydrodynamics in Ocean Engineering*, Trondheim, Norway, pp. 447-467.

Sarpkaya, T. and Isaacson M., (1981), *Mechanics of Wave Forces on Offshore Structures*, Van Nostrand Reinhold, New York.

Sarpkaya, T. Rajabi, F., Zedan, M. F., and Fisher, F. J., (1981), "Hydroelastic Response of Cylinders in Waves and Periodic Flow," *Proceedings of the Offshore Technology Conference*, OTC-3992.

Sarpkaya, T., (1982), "Flow Induced Vibration of Roughened Cylinders," *Flow Induced Vibrations in Fluids Engineering*, Vol. 1, pp. 1-13.

Sarpkaya, T. and Kline, H.K., (1982), "Impulsively Started Flow About Four Types of Bluff Body," *Journal of Fluids Engineering, ASME*, Vol. 104, pp. 207-213.

Sarpkaya, T., Raines, S. and Trytten D. O., (1982), "Wave Forces on Inclined Smooth and Rough Circular Cylinders," *Proceedings of the Offshore Technology Conference*, Vol. 1, pp. 731-736.

Sarpkaya, T. and Isaacson, M., (1982), "Response of Compliant Structures to Steep Waves," *Proceedings of the Offshore Technology Conference*, OTC-4190, pp. 281-285.

Sarpkaya, T., (1983), "The Rise and Demise of Trailing Vortices," *Advanced Topics in Aerodynamics and Aeroacoustics*, Springer-Verlag, pp. 1-3.

Sarpkaya, T., (1983), "Trailing Vortices in Homogeneous and Density Stratified Media," *Journal of Fluid Mechanics*, Vol. 136, pp. 85-109.

Sarpkaya, T., (1984), Discussion of "Quasi-2-D Forces on a Vertical Cylinder in Waves". *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*, Vol. 110, No. 1, pp. 120-123.

Sarpkaya, T. and Storm, M., (1984), "Hydrodynamic Forces From Combined Wave and Current Flow on Smooth and Rough Circular Cylinders at High Reynolds Numbers," *Proceedings of the Offshore Technology Conference*, OTC-4830.

Sarpkaya, T. Bakmis, C. and Storm, M. A., (1984), "Hydrodynamic forces from Combined Wave and Current Flow on Smooth and Rough Circular Cylinders at High Reynolds Numbers," *Proceedings of the Offshore Technology Conference*, OTC-4830, 455-460.

Sarpkaya, T., (1985a), "A Critical Assessment of the Methods of Analysis of Offshore Structures After Ten Years of Basic and Applied Research," *Proceedings of the International Symposium on Water Wave Research*, University of Hannover, Vol. 1, pp. 23-44.

Sarpkaya, T., (1985b), "Surface Signatures of Trailing Vortices and Large Scale Instabilities," *Proceedings of the Colloquium on Vortex Breakdown* (Sonderforschungsbereich 25), University of Aachen, pp. 145-187.

Sarpkaya, T., (1985), "Past Progress and Outstanding Problems in Time-Dependent Flows About Ocean Structures," *Proceedings of the International Symposium on Separated Flow Around Marine Structures*, Norwegian Institute of Technology, Trondheim, Norway, pp. 1-36.

Sarpkaya, T. and Storm, M. A., (1985), "In-Line Force on a Cylinder Translating in Oscillatory Flow," *Applied Ocean Research*, Vol. 7, No. 4, pp. 188-196.

Sarpkaya, T. and Heideman, J.C, (1985), "Hydrodynamic Forces on Dense Arrays of Cylinders," *Proceedings of the Offshore Technology Conference*, OTC-5008, pp. 421-424.

Sarpkaya, T. and Henderson, D., (1985), "Free Surface Scars and Striations Due to Trailing Vortices Generated by a Submerged Lifting Surfaces," AIAA Paper No. 85-0445.

Sarpkaya, T. and Janikowsky L.C., (1985), "Optimized Discrete-Singularity Representation of Axisymmetric Bodies," AIAA Paper No. 85-0284.

Sarpkaya, T., (1986), "Force on a Circular Cylinder in Viscous Oscillatory Flow at Low Keulegan-Carpenter Numbers.," *Journal of Fluid Mechanics*, Vol. 165, pp. 61-71.

Sarpkaya, T., (1986), "In-Line and Transverse Forces on Smooth and Rough Cylinders in Oscillatory Flow at High Reynolds Numbers," Report No. NPS69-86-003, Naval Postgraduate School, Monterey, CA.)

- Sarpkaya, T., (1986), "Trailing-Vortex Wakes on the Free Surface," *Proceedings of the 16th Symposium on Naval Hydrodynamics*, National Academy Press, pp. 38-50.
- Sarpkaya, T., (1986), "Oscillating Flow over Bluff Bodies in a U-Shaped Water Tunnel," *Proceedings of the AGARD Symposium on Aerodynamic and Related Hydrodynamic Studies Using Water Facilities*, Paper No. 6, pp. 6.1-6.15.
- Sarpkaya, T., (1986), "On Fluid Loading of Offshore Structures - After Ten Years of Basic and Applied Research," *Proceedings of the Offshore Operations Symposium*, Vol. 1, PD-1, pp. 153-164.
- Sarpkaya, T. and Ihrig C.J., (1986), "Impulsively-Started Flow About Rectangular Prisms - Experiments and Discrete Vortex Analysis," *Journal of Fluids Engineering ASME*, Vol. 108, pp. 47-54.
- Sarpkaya, T., (1987), Discussion of "Hydrodynamic Loading of Steel Structures," *Wave, Port, Coastal and Ocean Engineering Journal, ASCE* Vol. 113, No. 4, pp. 429-430.
- Sarpkaya, T., (1987), "Oscillating Flow about Smooth and Rough Cylinders," *Journal of Offshore Mechanics and Arctic Engineering*, ASME, Vol. 2, pp. 113-121.**
- Sarpkaya, T., (1987), "Oscillating Flow about Cylinders: Experiments and Analysis," *Forum on Unsteady Flow Separation, ASME-FED*, Vol. 52, pp. 139-146.
- Sarpkaya, T. and Daly, J. J., (1987), "Effect of Ambient Turbulence on Trailing Vortices," *Journal of Aircraft*, Vol. 24, No. 6, pp. 399-404.**
- Sarpkaya, T., Johnson, S. K., Gray, W. E. and Daly, J. J., (1987), "Contributions to Hydrodynamics: Vortex Motion in Homogeneous and Stratified Media," *Naval Research Reviews*, Vol. 39, pp. 3-8.
- Sarpkaya, T., (1989), "Computational Methods with Vortices—The 1988 Freeman Scholar Lecture," *Journal of Fluids Engineering*, ASME III, No. 1, pp. 5-52.**
- Sarpkaya, T., Elnitsky, J. and Leeker, R. E., (1989), "Wake of a Vortex Pair on the Free Surface," *Proceedings Seventeenth Symposium on Naval Hydrodynamics*, National Academy Press, Washington, D. C., pp. 53-60.
- Sarpkaya, T. (1990), "Wave Forces on Cylindrical Piles," *The Sea, Ocean Engineering Science*, (Eds. B. Le Mehaute & D. M. Haynes), John Wiley & Sons, N. Y. Vol. 9, Part A, pp. 169-195.
- Sarpkaya, T., (1990), "On the effect of roughness on cylinders," *Journal of Offshore Mechanics and Arctic Engineering, Trans. ASME*, Vol. 112, pp. 334-340.

- Sarpkaya, T., Mostafa, S. M. and Munz, P. D., (1990), "Numerical Simulation of Unsteady Flow about Cambered Plates," *Journal of Aircraft*, Vol. **27**, No. pp. 1, 51-59.
- Sarpkaya, T., (1991), "Scarred and Striated Signature of a Vortex Pair on the Free Surface," *Proceedings of the 18th Symposium on Naval Hydrodynamics*, National Academy Press, Washington, D. C., pp. 503-519.
- Sarpkaya, T., (1991), "Non-Impulsively Started Steady Flow about a Circular Cylinder," *AIAA Journal*, Vol. **29**, No. 8, pp. 1283-1289.
- Sarpkaya, T., (1991), "Hydrodynamic Lift and Drag on Rough Circular Cylinders," *Offshore Technology Conference*, OTC-6518.
- Sarpkaya, T., (1991), Comments on "the Accurate Calculation of Vortex Shedding," *Physics of Fluids A*, Vol. 3, No. 8, pp. 2013.**
- Sarpkaya, T., (1991), "Methods of Analysis for Flow Around Parachute Canopies," *Proceedings of the 11th AIAA Aerodynamic Decelerator Systems Technology Conference*, AIAA-91-0825, pp. 1-17.
- Sarpkaya, T., (1991), Comment on "Calculation of Asymmetric Vortex Separation on Cones and Tangent Ogives Based on a Discrete Vortex Model," *AIAA Journal*, Vol. **29**, No. 9, pp. 1535-1536.
- Sarpkaya, T., (1991), "Methods of Analysis for Flow Around Parachute Canopies," AIAA Paper 91-0825.
- Sarpkaya, T. and Lindsey, P. J., (1991), "Unsteady Flow about Porous Cambered Shells," Vol. **28**, No. 8, pp. 502-508.
- Sarpkaya, T. and Suthon, P., (1991), "Interaction of a Vortex Couple with a Free Surface," *Experiments in Fluids*, Vol. 11, pp. 205-217.**
- Sarpkaya, T., (1992), "Recent Progress in Basic Numerical and Physical Experiments on Oscillating Flow About Cylinders," *In Second Osaka International Colloquium on Viscous Fluid Dynamics*, Vol. 1, pp. 35-74. Pergamon Press.
- Sarpkaya, T., (1992a), "Brief Reviews of Some Time-Dependent Flows", *Journal of Fluids Engineering, Trans. ASME*, Vol. 114, No. 3, pp. 283-298.**
- Sarpkaya T., (1992b), "Three-Dimensional Interactions of Vortices with a Free Surface," AIAA Paper 92-0059.

- Sarpkaya, T., (1992c), "Interaction of a Turbulent Vortex with a Free Surface," *Proceedings of the Nineteenth Symposium on Naval Hydrodynamics*, pp. 163-174, National Academy Press.
- Sarpkaya, T., (1992d), "Forty Years of Fluid Loading - The Past and Beyond,"** *Proceedings of the International Conference on the Behavior of Offshore Structures (BOSS)* , Vol. 1, pp. 283-293.
- Sarpkaya, T., (1992e), "Closure to Separation Points on a Cylinder in Oscillatory Flow," *Journal of Offshore Mechanics and Arctic Engineering*, Vol. 114, p. 310.
- Sarpkaya, T., (1992f), "Instability and Transition on a Cylinder in Periodic Flow," *Proceedings of the International Union of Theoretical and Applied Mechanics Symposium on Bluff-Body Wakes, Dynamics and Instabilities*, Vol. 1, pp. 234-243,
- Sarpkaya, T., (1992g), "Offshore Hydrodynamics – Research Trends and Opportunities,"** *Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering*, Transaction of the ASME, Vol. 1, pp. 78-89.
- Sarpkaya, T. and Butterworth, W., (1992), "Separation Points on a Cylinder in Oscillating Flow," *Journal of Offshore Mechanics and Arctic Engineering, Trans. ASME*, Vol. 114, pp. 28-36.
- Sarpkaya, T., and Putzig, C., (1992), *Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering*, Vol. 1, pp. 69-77.
- Sarpkaya, T. Putzig, C., Gordon, D., Wang, X., and Dalton, C., (1992), "Vortex Trajectories Around a Circular Cylinder in Oscillatory Plus Mean Flow," *Journal of offshore Mechanics and Arctic Engineering*, Vol. 114, pp. 291-298.
- Sarpkaya, T., (1993), "On the Instability of the Stokes Boundary Layer. in Near-Wall Turbulent Flows," (eds. R.M.C. So, C.G. Speziale & B. E. Launder), Elsevier Science Pub., B. V. pp. 479-488.
- Sarpkaya, T., (1993), "Coherent Structures in Oscillatory Boundary Layers,"** *Journal of Fluid Mechanics*, Vol. 253, pp. 105-140.
- Sarpkaya, T., (1993), "Offshore Hydrodynamics," *Journal of Offshore Mechanics and Arctic Engineering, Trans. ASME*. Vol. 115, No. 1, pp. 2-5.
- Sarpkaya, T., (1994), "Vortex Element Methods for Flow Simulation,"** *In Advances in Applied Mechanics*, (Ed. Th. Wu and A Hutchinson), Vol. 31, pp. 113-247, Academic Press, London.

- Sarpkaya, T., Merrill, C., and Carroll, J., (1994), "Coherent Structures in Vortex/Free-Surface Interaction," AIAA Paper 94-0530, pp. 1-12.
- Sarpkaya T, Magee M, Merrill C., (1994), "Vortices, Free-Surface and Turbulence," *Free Surface Turbulence*, (ed. E. P. Rood, J. Katz,) ASME-FED, Vol. **181**, pp. 1-14.
- Sarpkaya, T. and Neubert, D., (1994), "Interaction of a Streamwise Vortex with a Free Surface," *AIAA Journal*, Vol. **32**. No. 3, pp. 594-600.
- Sarpkaya, T., (1995a), "Turbulent Vortex Breakdown," *Physics of Fluids*, Vol. 7, No. 10, pp. 2301-2303.**
- Sarpkaya, T., (1995b), "Hydrodynamic Damping, Flow-Induced Oscillations, and Biharmonic Response," *Journal of Offshore Mechanics and Arctic Engineering*, TRANS. ASME, pp. 232-238.**
- Sarpkaya, T., (1996a) "Interaction of Vorticity, Free-Surface, and Surfactants," *Annual Review of Fluid Mechanics*, Vol. 28, pp. 83-128.**
- Sarpkaya, T., (1996b), "Unsteady Flows," in *Handbook of Fluid Dynamics and Fluid Machinery*, (Eds: J. A. Schetz & A. E. Fuhs), Vol. 1, pp. 697-732, John Wiley & Sons.**
- Sarpkaya, T., and O'Keefe, J. L., (1996), "Oscillating Flow about Two- and Three-Dimensional Bilge Keels," *Journal of Offshore Mechanics and Arctic Engineering*, TRANS. ASME, pp. 1-6.
- Sarpkaya, T., de Angelis, M, and Hanson, C., (1997) "Oscillating Turbulent Flow with or without a Current about a Circular Cylinder," *Journal of Offshore Mechanics and Arctic Engineering*, TRANS. ASME, Vol. 119, pp. 73-78.
- Sarpkaya, T. and Massidda, T., (1997) "Conductivity Measurements in the Wake of Submerged Bodies in Density-Stratified Media," *Naval Hydrodynamics*, Vol. 1, National Academy Press, Washington, D.C., pp. 266-277.
- Sarpkaya, T. and Novak, F., (1997) "Turbulent Vortex Breakdown: Experiments in Tubes at High Reynolds Numbers," in *Dynamics of Slender Vortices*, Kluwer Press, pp. 287-296.**
- Sarpkaya, T., (1998), "Resistance in Unsteady Flow: Search for a Physics-Based Model," *Naval Hydrodynamics*, Vol. 1, National Academy Press, Washington, D.C., pp. 676-690.

- Sarpkaya, T., (1998) "Decay of Wake Vortices of Large Aircraft," *American Institute of Aeronautics and Astronautics Journal*, Vol. 36, No. 9, September, pp. 1671-1679.**
- Feyedelem, M. S. and Sarpkaya, T., (1998), "Free- and Near-Free-Surface Swirling Turbulent Jets," *American Institute of Aeronautics and Astronautics Journal*, Vol. 36, No. 3, March. pp. 359-364.**
- Sarpkaya, T. and Merrill, C., (1998a), "Spray Formation at the Free Surface of Liquid Wall Jets," in *Proceedings of the Third International Conference on Multiphase Flow*, ICMF'98, Lyon (France), June, pp. 105-123.
- Sarpkaya, T., and Merrill, C. F., (1998b), "Spray Formation at the Free Surface of Liquid Wall Jets," *Proceedings of the 22nd Symposium on Naval Hydrodynamics*, National Academy Press, August, pp. 796-808.
- Sarpkaya, T., (1999) "Unsteady Flows," in *Fundamentals of Fluid Mechanics* (Ed: J. Schetz), Chap. 12, pp. 697-732.**
- Novak, F. and Sarpkaya, T., (2000c), "Vortex Breakdown at High Reynolds Numbers," *American Institute of Aeronautics and Astronautics Journal*, Vol. 38, No. 5, May, pp. 1671-1679.**
- Sarpkaya, T., and Merrill, C. F., (2000e), "High Speed Laser-PIV Imaging for the Eulerian-Lagrangian Measurement and Visualization of Spray on Wall-Bounded Jets," *Proceedings of the ICLASS (International Congress on Liquid Atomization and Spray Systems)*, (on CD), July, Pasadena, CA.
- Sarpkaya, T., (2000b), "Characterization of the Free Surface Structures on High-Speed Liquid Jets," *Proceedings of the ICLASS* (on CD), July, Pasadena, CA.
- Sarpkaya, T., (2000a), "New Model for Vortex Decay in the Atmosphere," *Journal of Aircraft (AIAA)*, Vol. 37, No. 1, January/February, pp. 53-61.
- Sarpkaya, T. (2000f), "Resistance in Unsteady Flow: Search for an In-Line Force Model," *International Journal of Offshore and Polar Engineering*, Vol. 10, No. 4, Dec. , pp: 1053-5381.
- Sarpkaya, T., (2001), "On the Force Decompositions of Lighthill and Morison," *Journal of Fluids and Structures*, Vol. 15, No. 2, Feb. 2001, pp. 227-233.**

Sarpkaya, T. and Merrill, C. F., “Spray Generation from turbulent Plane Water Wall Jets Discharging into Quiescent Air,” *American Institute of Aeronautics and Astronautics Journal*, Vol. 39, No. 7, July, 2001, pp. 1217-1229.

Sarpkaya, T., Robins, R. E., and Delisi, D. P., (2001), “Wake-Vortex Eddy- Dissipation Model Predictions Compared with Observations”, *Journal of Aircraft, AIAA*, Vol. 38, No. 4, July-August 2001, pp. 687-692.

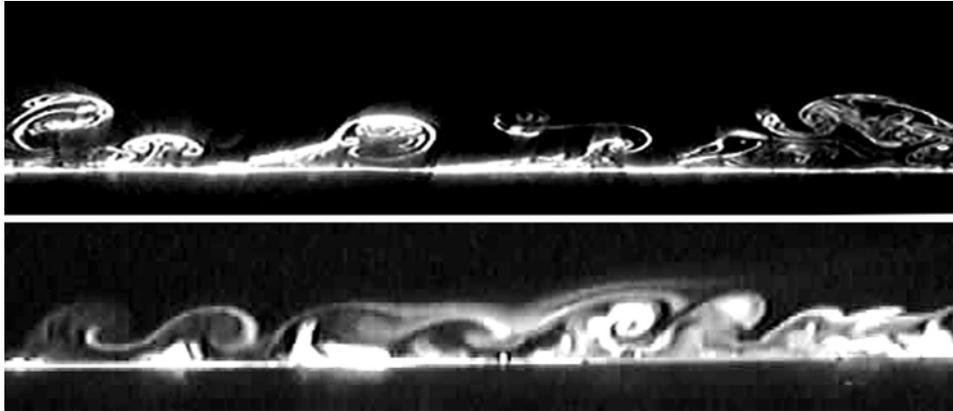
Sarpkaya, T. (2001) "Hydrodynamic Damping and Quasi-Coherent Structures at Large Stokes Numbers," *Journal of Fluids and Structures*, Vol. 15, No.7, pp. 909-928.

Sarpkaya, T. (2002) “Experiments on the stability of sinusoidal flow over a circular cylinder,” *Journal of Fluid Mechanics*, Vol. 457, pp: 157-180.

Sarpkaya, T., (2002) “Taylor-Görtler instability and separation on a cylinder in sinusoidally oscillating flow,” Proceedings of IUTAM-2002 on Unsteady Separated Flows, Toulouse (Fr), pp. 1-12

Markle, H. B. And Sarpkaya, T., (2002) “Bow Waves on a Free-Running, Heaving, and/or Pitching Destroyer,” Proceedings of the 24th Symposium on Naval Hydrodynamics, pp. 1-12, July 8-13, Fukuoka, Japan.

Sarpkaya, T., (2004) "A Critical Review of the Intrinsic Nature of Vortex Induced Vibrations", *Journal of Fluids and Structures*, Vol 19(4), 389-447.



Coherent structures in oscillating flow over a cylinder
(*Journal of Fluid Mechanics* 457, 2002).

