

- Cover image from *Tienyi T. Hsu, Travis W. Walker, Curtis W. Frank, and Gerald G. Fuller, Phys. Fluids 23, 033101 (2011)*.

**SPECIAL TOPIC: A TRIBUTE TO CARLO CERCIGNANI (1939–2010)**

Preface to Special Topic: A Tribute to Carlo Cercignani (1939–2010) (1 page)	Yoshio Sone	030501
Investigation of the ellipsoidal-statistical Bhatnagar–Gross–Krook kinetic model applied to gas-phase transport of heat and tangential momentum between parallel walls (11 pages)	M. A. Gallis and J. R. Torczynski	030601
Stochastic models in kinetic theory (14 pages)	Wolfgang Wagner	030602
Steady flows of a highly rarefied gas induced by nonuniform wall temperature (13 pages)	Shingo Kosuge, Kazuo Aoki, Shigeru Takata, Ryosuke Hattori, and Daisuke Sakai	030603
Sonine approximation for collisional moments of granular gases of inelastic rough spheres (12 pages)	Andrés Santos, Gilberto M. Kremer, and Marcelo dos Santos	030604
Performance analysis of the continuous trace gas preconcentrator (6 pages)	E. P. Muntz and Y.-L. Han	030605
Low-noise Monte Carlo simulation of the variable hard sphere gas (12 pages)	Gregg A. Radtke, Nicolas G. Hadjiconstantinou, and Wolfgang Wagner	030606
Shock wave structure for generalized Burnett equations (10 pages)	A. V. Bobylev, M. Bisi, M. P. Cassinari, and G. Spiga	030607
Rarefied gas dynamics on a planetary scale (7 pages)	D. B. Goldstein and P. L. Varghese	030608
Boundary conditions at the vapor-liquid interface (9 pages)	Aldo Frezzotti	030609

**LETTERS**

The symmetry of mobility laws for viscous flow along arbitrarily patterned surfaces (4 pages)	Ken Kamrin and Howard A. Stone	031701
Thermal transpiration flow: A circular cross-section microtube submitted to a temperature gradient (4 pages)	Marcos Rojas Cardenas, Irina Graur, Pierre Perrier, and J. Gilbert Meolans	031702

**ARTICLES****Interfacial Flows**

Velocity field reconstruction in gravity-driven flow over unknown topography (7 pages)	C. Heining	032101
Nonlinear dynamics of confined thin liquid-vapor bilayer systems with phase change (14 pages)	Kentaro Kanatani and Alexander Oron	032102

**Viscous and Non-Newtonian Flows**

Role of fluid elasticity on the dynamics of rinsing flow by an impinging jet (10 pages)	Tienyi T. Hsu, Travis W. Walker, Curtis W. Frank, and Gerald G. Fuller	033101
---	--	--------