

Research Interests

Hydrodynamics: Sea waves and currents, air bubble plumes;
Electrodynamic radiation pressure, the Abraham-Minkowski problem;
Casimir effect;
Viscous cosmology.

Course Taught

Fluid Mechanics

Scientific papers from 2000 onwards

106. I. Brevik and H.B. Sandvik: Magneto-hydrodynamics in the inflationary universe. *Phys. Rev. D* **61**, 083505 (pp.1-7) (2000).
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109. I. Brevik and S.V. Pettersen: Can a Kasner universe with a viscous cosmological fluid be anisotropic? *Phys. Rev. D* **61**, 127305 (pp. 1-3) (2000).
110. I. Brevik: Self-screening Hawking atmosphere in the presence of a bulk viscosity. *Phys. Rev. D* **61**, 124017 (pp. 1-5) (2000).
111. B. Jensen and I. Brevik: Transition radiation and the origin of sonoluminescence. *Phys. Rev. E* **61**, 6639-6643 (2000).
112. J.S. Høye and I. Brevik: The Casimir problem of spherical dielectrics: a solution in terms of quantum statistical mechanics. *J. Statistical Phys.* **100**, 223-232 (2000).
113. I. Brevik, K.A. Milton, S.D. Odintsov and K.E. Osetrin, Dynamical Casimir effect and quantum cosmology. *Phys. Rev. D* **62**, 064005 (pp.1-8) (2000).
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115. J.S. Høye, I Brevik and J.B. Aarseth: Casimir problem of spherical dielectrics: Quantum statistical and field theoretical approaches. *Phys. Rev. E* **63**, 051101 (pp.1-12) (2001).
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120. I. Brevik and G. Halmes: Light rays at optical black holes in moving media. *Phys. Rev. D* **65**, 024005 (pp.1-12) (2001).
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123. I. Brevik and Ø. Kristiansen: The flow in and around air-bubble plumes. *Internat. J. Multiphase Flow* **28**, 617-634 (2002).
124. I. Brevik, J.B. Aarseth and J.S. Høye: Casimir problem in spherical dielectrics: a quantum statistical mechanical approach. *Internat. J. Modern Phys. A* **17**, 776-785 (2002).
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126. I. Brevik: Cardy-Verlinde entropy formula in the presence of a general cosmological state equation. *Phys. Rev. D* **65**, 127302 (pp. 1-4) (2002).
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133. I. Brevik: Viscous cosmology and the Cardy-Verlinde formula. *Int. J. Mod. Phys. A* **18**, 2145-2152 (2003).
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135. A. Casner, J.-P. Delville and I. Brevik: Asymmetric optical radiation pressure effects on liquid interfaces under intense illumination. *J. Opt. Soc. Am. B* **20**, 2355-2362 (2003).
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141. I. Brevik, M. Wold Lund and G. Ruø: Time dependent eigenvalue problem and production of particles. *Vestnik (TSPU, Tomsk)* **7** (44), 45-49 (2004) [hep-th/0406156].
142. I. Brevik, K. Ghoroku and M. Yahiro: Radius stabilization and brane running in the Randall-Sundrum type 1 model . *Phys. Rev. D* **70**, 064012 (pp. 1-6) (2004).
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