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Casimir-related work, current and projected

Quantum friction:

The recent literature features controversies regarding quite basic features of the effects of uniform relative motion on Casimir-type forces. To try and resolve some of these questions at least qualitatively I am studying cases with the distances between the bodies small enough for retardation to be neglected: in this limit the field-theory derived Casimir forces reduce to Van der Waals forces, of the kind familiar from ordinary nonrelativistic quantum mechanics, and less liable to misunderstanding or to mishandling. Work is complete and awaiting write-up on the drag forces (i) between two atoms on parallel tracks; (ii) between atom and half-space at constant separation; and (iii) between two half-spaces at constant separation. All these forces are nonzero. Projected extensions include the effect of the same relative motions on the attraction between the bodies.

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