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Our group in Paris is interested in several aspects of Casimir physics:

Since more than 10 years we have developed the scattering approach to calculate the electromagnetic Casimir or Casimir-Polder interaction. We are able to take into account material properties, surface roughness, temperature and different geometries beyond the proximity force approximation. Currently the plane-sphere geometry and geometries with corrugated plates are of particular interest for us. The latter geometry allows not only for the normal Casimir force, but also for lateral Casimir forces and vacuum torques. Along the same line we have studied the influence of surface plasmons on the Casimir force.

We also apply the scattering approach to the calculation of photon emission from a moving mirror or cavity into vacuum, the so-called dynamical Casimir effect with the aim to find means to render it observable in specifically designed experiments.