



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 2874

Type: **Poster (Non-Student) / Affiche (Non-étudiant(e))**

43 - A Stern-Gerlach separator of chiral enantiomers based on the Casimir-Polder potential

Tuesday, 4 June 2019 17:01 (2 minutes)

We propose a method to separate enantiomers using parity violation in the Casimir-Polder potential between chiral mirrors and chiral molecules. The proposed setup involves a molecular beam composed of chiral molecules passing through a planar cavity consisting of two chiral mirrors. Enantiomers of opposite handedness are deflected differently due to a chiral dependence of the Casimir-Polder potential resulting in the separation of the enantiomers. Our setup provides an alternative experimental tool for enantiomer separation, as well as shedding light on the fundamental properties of the Casimir-Polder potential.

Primary authors: Dr SUZUKI, Fumika (University of British Columbia); Prof. MOMOSE, Takamasa (University of British Columbia); Dr BUHMANN, Stefan (Albert-Ludwigs-Universität Freiburg)

Presenter: Dr SUZUKI, Fumika (University of British Columbia)

Session Classification: DAMOPC Poster Session & Student Poster Competition Finals (26) | Session d'affiches DPAMPC et finales du concours d'affiches étudiantes (26)

Track Classification: Division of Atomic, Molecular and Optical Physics, Canada / Division de la physique atomique, moléculaire et photonique, Canada (DAMOPC-DPAMPC)