SCATTERING LIGHT THROUGH SEMI-TRANSPARENT MIRRORS

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Summary

In this contribution, we discuss the quantization of the electromagnetic field [1] near semi-transparent two-sided mirrors. These are thin conducting flat surfaces with finite transmission, reflection and absorption rates and with wave packets approaching the mirror from both sides. Our model uses the same notion of photons as in free space [2] and accounts for the presence of mirror images and the possible exchange of energy between the electromagnetic field and the mirror surface. When considering limiting cases, our approach reproduces well-known results [3] but it also paves the way for the modelling of more complex systems with applications in quantum technology.

References:
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