

# Direct sampling of electric-field vacuum fluctuations

Science 420, 6259 (2015)

- 1) What is question the paper addresses?
- 2) What is the measurement idea?
- 3) Which two strategies do the authors use to measure vacuum fluctuations?
- 4) What is the issue with the shot noise?
- 5) What do the authors conclude?

- 1) Can vac. fluct. be measured in free space?
- 2) Measure vac. fluctuations via changes of the refractive index of a material.
- 3) a) vary mode width (size)  
b) temporal length
- 4) Shot noise is an additional fluctuation source, which need to be accounted for.
- 5) Vacuum fluctuations can be measured in free space and agree with the. value.