

# Luminosity, Emittance Evolution & OP Scans

*Tuesday 15 December 2015 17:00 (10 minutes)*

During 2015 proton physics operation, beam size estimates were derived from the luminosities acquired during small VdM-like beam separation scans (the so called “OP scans”). This talk recalls the main results from such scans, e.g. fill-by-fill differences and emittance evolution in stable beams. In particular, it is shown that emittance shrinking due to synchrotron light damping was observed for the first time with proton beams. Furthermore, the luminosity evolution is analysed and the optimal fill length is derived based on average and expected turn-around times. A few comments on the luminosity imbalance between ATLAS and CMS and BCMS bunch-by-bunch emittances are also given.

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**Session Classification:** Performance and limitations - part I