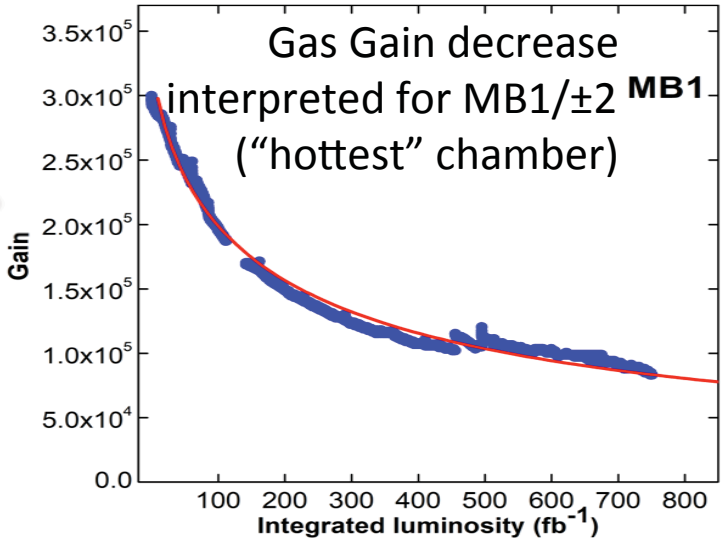
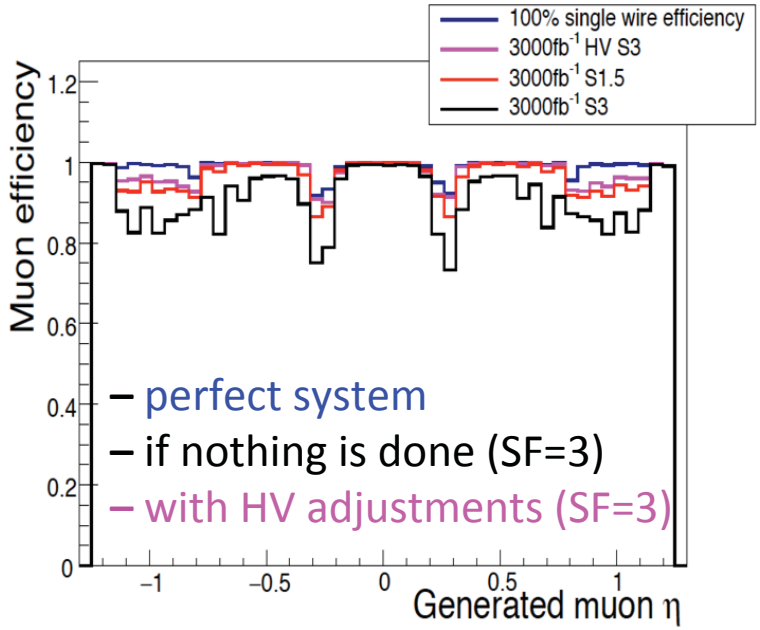
Longevity: DTs

- **Tests of a full-size DT chamber and a small-size prototype at GIF++ are ongoing; expected Q at HL-LHC: 20 mC/cm**
  - first results (2.5 mC/cm) reveal a **gas gain decrease**
  - there will be impact on the efficiency of **15% of DTs**
  - **single-layer efficiency** at 3000 fb^{-1} is expected to drop to 87% (43%) without/with SF=3 for accumulated charge, if no mitigation measures are taken.



- **Due to the DT system redundancy, the effect on muon efficiency and momentum measurements is small:**
  - ~90% efficiency (with SF=3)
  - change in dp_T/p_T (standalone system) is negligible



- **Mitigation measures are being implemented:**
  no gas recirculation, adjusting HV, lower-threshold discriminators for new electronics, shielding for outer chambers, …