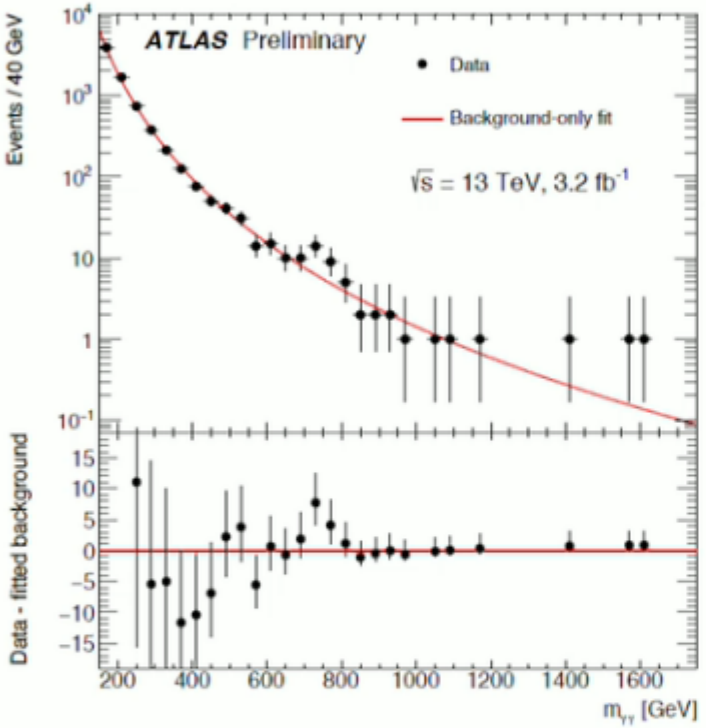
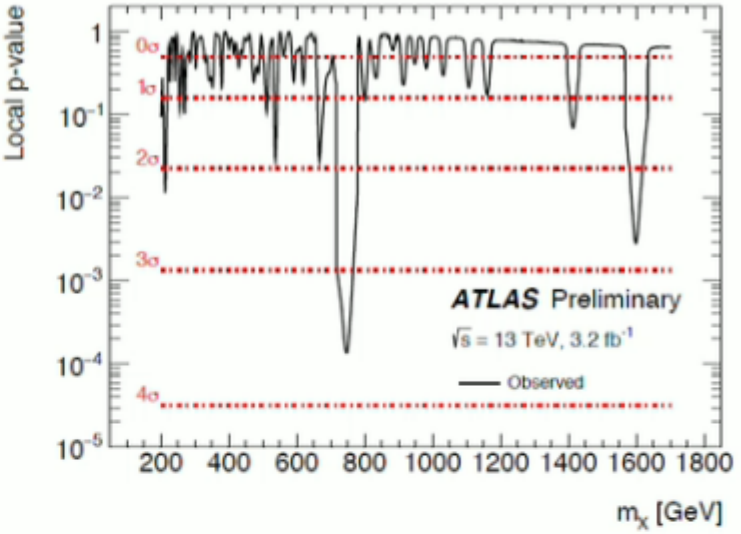
Search for a **Two Photons Resonance** (II)

Results: Events with mass in excess of 200 GeV are included in **unbinned fit**





- **In the NWA search**, an excess of **3.6σ** (local) is observed at a mass hypothesis of minimal p_0 of 747 GeV
- Taking a LEE in a mass range (fixed before unblinding) **of 200 GeV to 1.8 TeV** the global significance of the excess is **1.9σ**

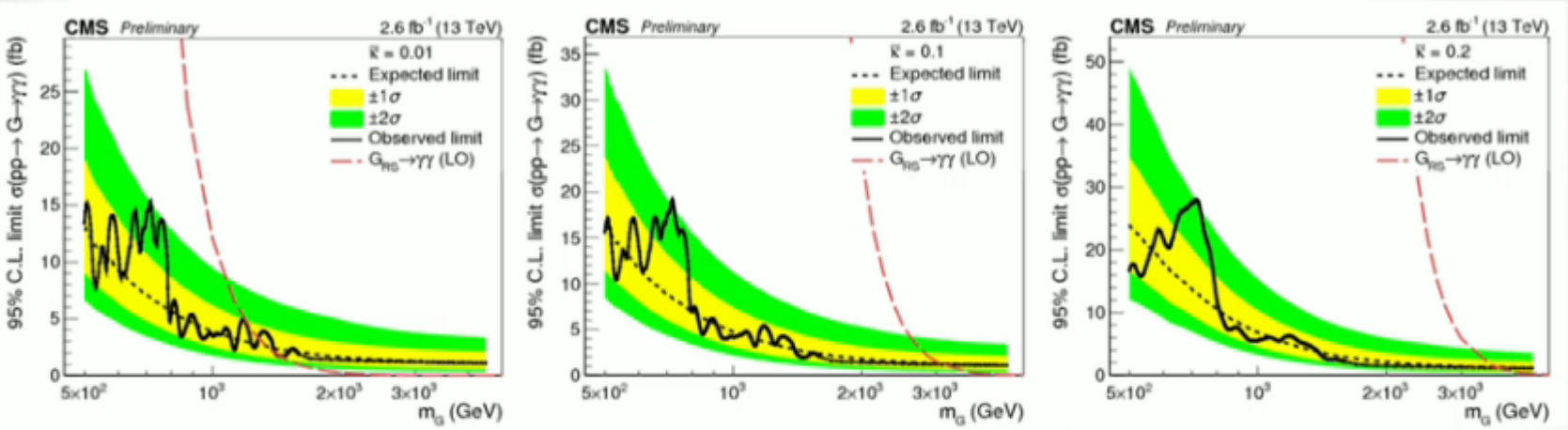
In the NWA fit the resolution uncertainty is profiled in the NWA fit and is pulled by 1.2σ

The data was then fit under a **LW hypothesis** yielding a width of approximately 45 GeV
(Approx. 6% of the best fit mass of approximately 750 GeV)

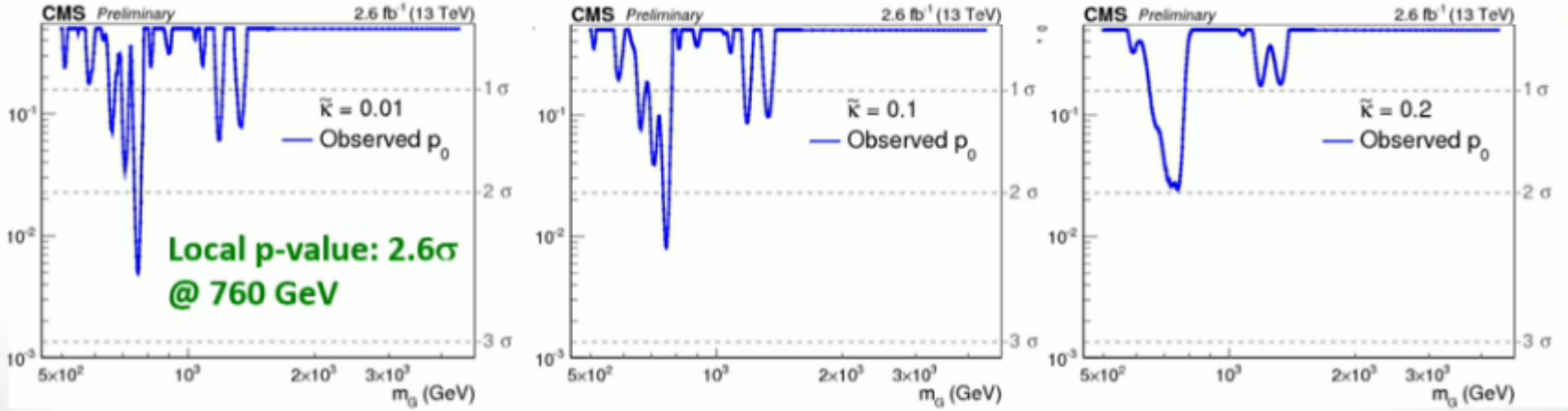
- As expected the local significance increases to **3.9σ**
- Taking into account a LEE in mass and width of up to **10%** of the mass hypothesis of **2.3σ** (Note: upper range in resolution fixed after unblinding)

Combined limits and p-values

EXO-15-004



Narrow Width → **Wide (6%) Width**



Local p-value: 2.6σ @ 760 GeV

Including LEE (0.5 - 4.5 TeV; narrow width), global p-value < 1.2σ