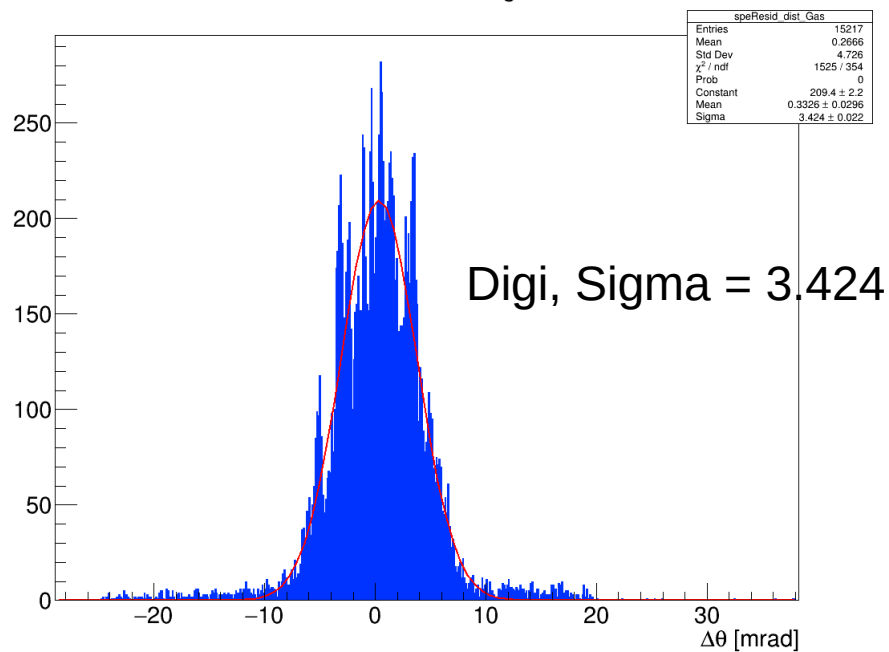


Sigma single photon: pixel contribution

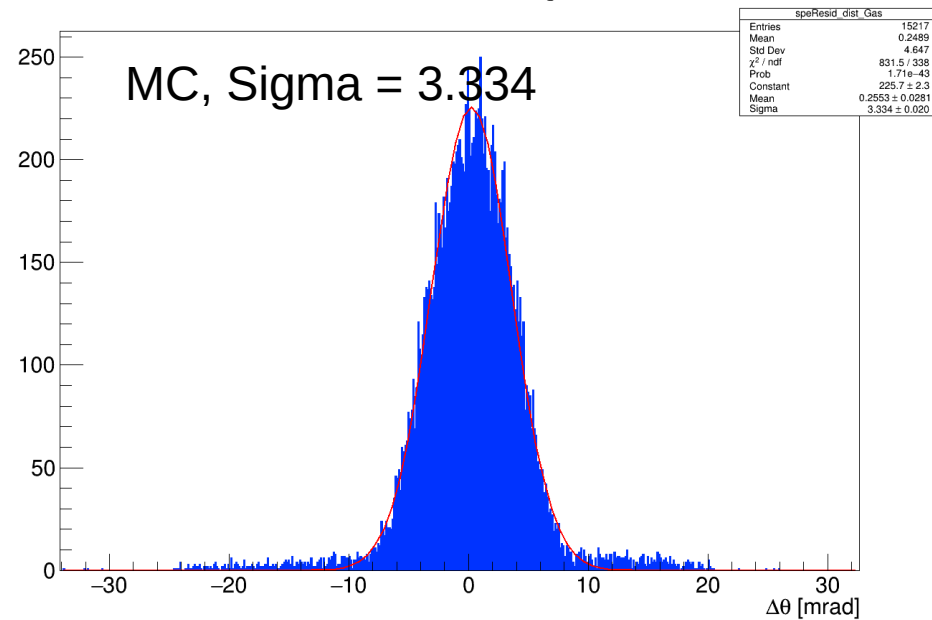
Fixed momentum, phi and pseudorapidity!

```
// start new IRT photon
auto *irt_sensor = m_irt_det->m_PhotonDetectors[0]; // NOTE: assumes one sensor type
auto *irt_photon = new OpticalPhoton(); // new raw pointer; it will also be destroyed when `irt_particle` is
destroyed
irt_photon->SetVolumeCopy(sensor_id);
//irt_photon->SetDetectionPosition(Tools::PodioVector3_to_TVector3(mc_photon.getEndpoint()));
irt_photon->SetDetectionPosition(pixel_pos);
irt_photon->SetPhotonDetector(irt_sensor);
irt_photon->SetDetected(true);
```

Reconstructed SPE Cherenkov Angle Residual for Gas

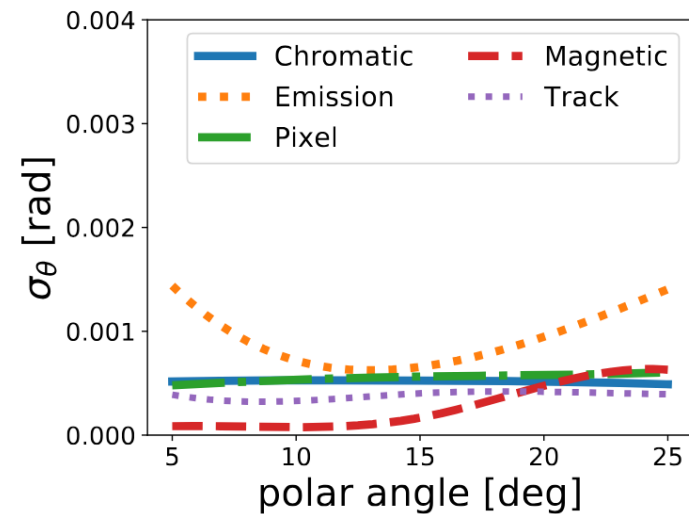
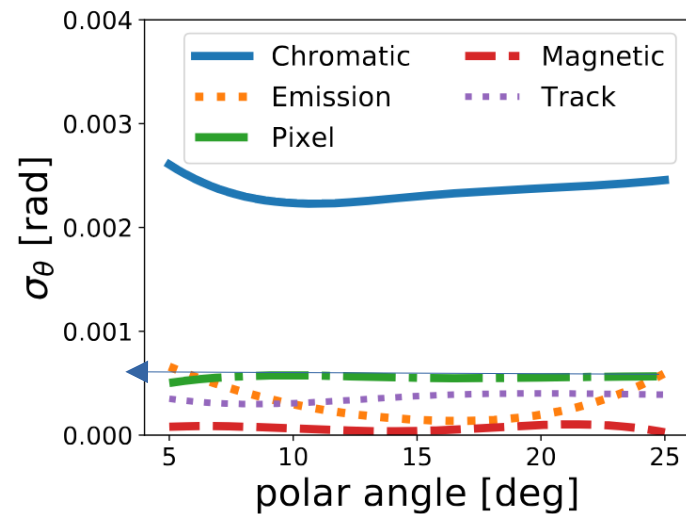


Reconstructed SPE Cherenkov Angle Residual for Gas



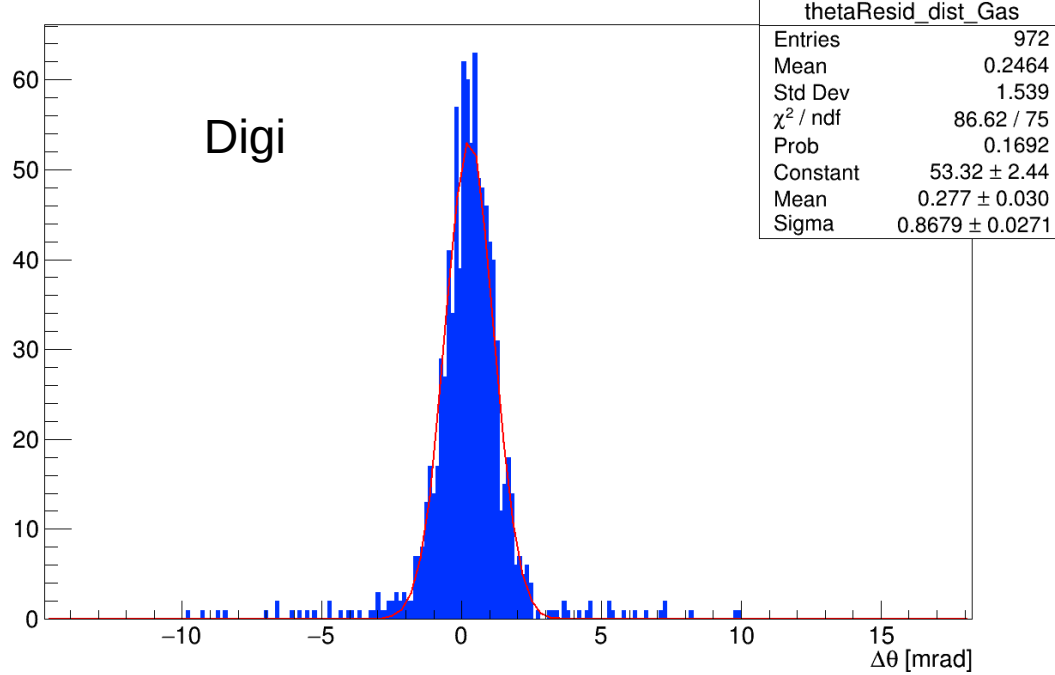
Pixel contribution: 0.78 mrad $\sim$ 0.00078 rad

Seems compatible!

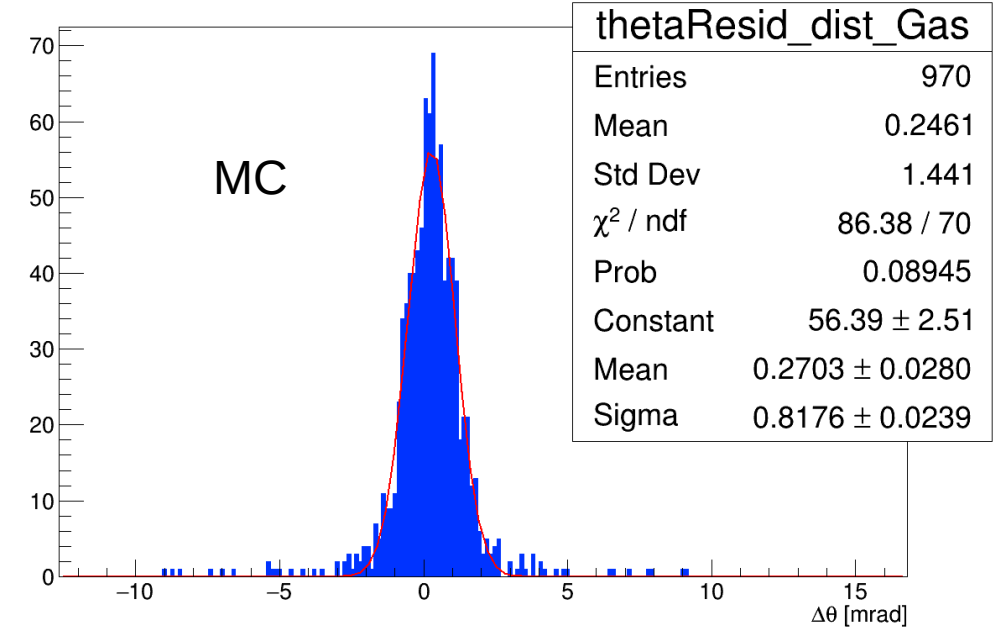


Ring

Reconstructed Cherenkov Angle Residual for Gas



Reconstructed Cherenkov Angle Residual for Gas



Pixel contribution: 0.30 mrad $\sim$ 0.0003 rad