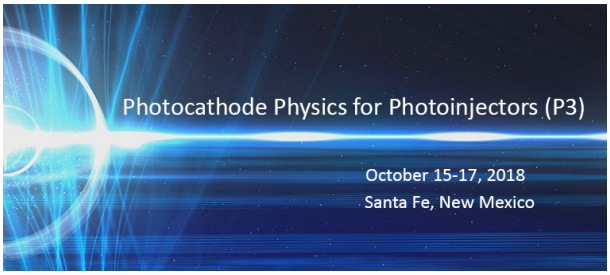

Contribution ID: **5** Type: **not specified**

Spatio-temporal quantum limits for UED/UEM from MTE

Monday 15 October 2018 10:05 (20 minutes)

Photocathode physics plays a critical role in the formation of space and time resolution in time resolved stroboscopic electron scattering experiments like electron diffraction, microscopy, and spectroscopy. As effective photoemission temperatures approach single meV values, it is feasible to consider sources for <= 1 electron per pulse which approach the uncertainty principle emittance limit, having comparable or better transverse emittance and energy spread as compared to cold field emission tip sources. In this talk, I will give straightforward examples of how such sources might be realized experimentally, as well as simulations of electron scattering application examples where the current state of the art in low photoemission effective temperature can yield unprecedented temporal resolution in electron diffraction and microscopy.

Presenter: Dr MAXSON, Jared (Cornell University)

Session Classification: Session 2

Track Classification: Session 2: Application Oriented Research: Low Average Current