

# Exclusive Diffraction with the EPIC detector

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One of the golden measurements at the Electron-Ion Collider (EIC) is to measure the coherent diffractive Vector-Meson (VM) production off heavy nuclei. The measurement is expected to be sensitive to the non-linear gluon dynamics - saturation, and most importantly, it also provides the gluon density distribution of the nucleus. While the measurement was established in the EIC White Paper 10 years ago, it is not until recently that the experimental challenges of this measurement were realized. In this talk, I will discuss the physics motivation, key challenges associated with the measurement, and their potential solutions in the context of electron-gold collisions, including detector resolution and overwhelming background. Full simulations based on the most up-to-date EPIC detector design at the EIC will be presented.

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