**Physics in Intense Fields (PIF22)** 



Contribution ID: 30

Type: not specified

## A unifying approach to strong fields

Wednesday 31 August 2022 08:55 (25 minutes)

Strong fields are ubiquitous in physics, occurring on scales from quarks to the entire universe, and encompassing all fundamental interactions. Insights gained from one area of strong field physics can be of great value in other areas. This is (relatively) straightforward with vector and scalar forces, but the very different nature of gravity can make it hard to translate results from one arena to the other.

However, the special case of dynamics in a conformally flat spacetime is formally equivalent to the interaction with a scalar field in a flat background. This equivalence provides a "Rosetta Stone", enabling us to discuss gauge fields and gravity in the same language. In this talk, we introduce this approach, and use it to discuss the characterisation of "strong fields", and some of the important phenomena they induce.

Primary author: NOBLE, Adam (University of Strathclyde)

Presenter: NOBLE, Adam (University of Strathclyde)

Session Classification: Strong Field QED