

Abstract Submitted
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**Unitarization of HEFT Electroweak Boson-Boson Scattering:
Controlling Uncertainty with the Inverse Amplitude Method¹** ALEXAN-
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Field Theories such as HEFT, organized as momentum expansions, are a control-
lable approximation to strong dynamics only near threshold, as they miss exact elas-
tic unitarity, reducing their predictive power at a higher scale if small separations
from the Standard Model are found at the LHC or elsewhere. Unitarized chiral per-
turbation theory extends their reach to saturation of unitarity but, generally, with
unknown systematics. Our contribution follows the derivation of the Inverse Ampli-
tude Method (IAM), a serious unitarization procedure, quantifying the uncertainty
introduced at each step. Provided a check for zeroes of the amplitude is performed
and, if appropriate, they are taken into account, we find that the IAM extension of
EFT partial wave amplitudes can be assigned a limited uncertainty band up to and
including the first resonance or structure of the amplitude, and if none appears, up
to energies of the order of $(4\pi F)$, nominal validity limit of the EFT.

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