No.202541

Academic Presentations in Physics
物理学系列学术报告

报告题目： **Notes on flat-space limit of holographic defect correlators in position space**

报 告 人：陈 启 博士 中国科学院大学

报告时间：2025年12月16日（星期二）上午10：00

报告地点：长安校区物理楼856教室

报告摘要：Using a rigorous position space analysis, we systematically derived the flat-space limit of holographic defect two-point functions. Our approach involved a specific Lorentzian scaling limit where operators are effectively null-separated from the defect. This method results in a precise formula relating the scaling limit of correlators to flat-space scattering form factors via a Bessel kernel. We demonstrated that our position space prescription is equivalent to the recent Mellin space conjecture, effectively proving it. It shows that the formalism is robust for defect dimensions $0 \le p \le d-1$, covering cases where Mellin representations fail. Additionally, the required analytic continuation was detailed. Additionally, the validity of the formula was successfully tested against non-trivial examples, including Wilson loops in 4d $\mathcal{N}=4$ SYM and surface defects in 6d (2,0) theories.

报告人简介：陈启博士，2025年于清华大学物理系获得博士学位，现在为中国科学院大学卡弗里理论科学研究所博士后研究员，研究方向为全息缺陷关联函数，解析自举等。

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