

## Matrix Model for Structure Constants of "Huge" Protected Operators in N=4 SYM Theory

*vendredi 7 juin 2024 10:00 (1 heure)*

Huge operators in  $N = 4$  SYM theory correspond to sources so heavy that they fully backreact on the space-time geometry. Here we study the protected correlation function of three such huge operators when they are given by  $1/2$  BPS operators, dual to IIB Strings in  $AdS_5 \times S^5$ . We unveil simple matrix model representations for these correlators which we can sometimes solve analytically. For general huge operators, we transform this matrix model into a  $1 + 1$  dimensional integrable hydrodynamics problem. A discrete counterpart of this system --the rational Calogero-Moser Model - helps to numerically solve the problem for general huge operators.

**Orateur:** KAZAKOV, Vladimir (Laboratoire de Physique de l'École Normale Supérieure, Paris)