HIROHIKO SHIMADA, OIST

Universal asymptotics in one parameter family of OPEs

The unitarity bound plays a key role in the numerical conformal bootstrap. These bounds in the dimensions $d \geq 2$ are often associated with one parameter families of solutions to the crossing symmetry, and as such, revive the interest in non-unitary CFTs with a continuous parameter. An example of the latter arises in the Schramm-Loewner evolution SLE_κ realized in the conformal $O(n)$ loop models, where the OPE for generic non-rational κ does not truncate as in the CFTs in $d > 2$. The CFTs with the Virasoro or W_3 symmetry may have one parameter and are of fundamental importance in statistical physics. When one varies the parameter, the zeros and poles in OPE coefficients form the infinite tree structures of the Stern-Brocot type. The analytic structure is deeply linked to the universal exponential decays and the oscillation of the OPE coefficients for large scaling dimensions.