Conformal Bootstrap in Mellin Space.

Rajesh Gopakumar
(ICTS, Bengaluru)

Date: Oct 03, 2016
Time: 11:30
Venue: A-304, TIFR

(Duration and Location are subject to irreducible jitter)

We describe a new approach towards analytically solving for the dynamical content of Conformal Field Theories (CFTs) using the bootstrap philosophy. This combines the original bootstrap idea of Polyakov with the modern technology of the Mellin representation of CFT amplitudes. We illustrate the power of this method in the epsilon expansion of the Wilson-Fisher fixed point by reproducing anomalous dimensions and obtaining OPE coefficients to higher orders in epsilon than currently available using other analytic techniques (including Feynman diagram calculations).

Our results enable us to get a somewhat better agreement of certain observables in the 3d Ising model, with the precise numerical values that have been recently obtained.

Infosys