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Large-charge expansions and Resurgence.

The conformal data of generic CFTs involving heavy charged operators can be organised as a series in inverse powers of the global charges involved. When extrapolating these expansions to light low-charge sectors, is it relevant to ask whether these series are divergent and Borel-summable. In this talk, I will show that the O(N) scalar CFT has a large-charge expansion which is not Borel-summable with non-perturbative ambiguities cured by Worldline instantons. These are discussed using Resurgence methods and shown to have an exact semi-classical expansion.

Author: DONDI, Nicola Andrea (University of Bern)

Co-authors: ORLANDO, Domenico; REFFERT, Susanne (Universitaet Bern (CH)); Mr KALOGERAKIS, Ioannis (University of Bern)

Presenter: DONDI, Nicola Andrea (University of Bern)

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