

LONG-RANGE VIRASORO MINIMAL MODELS

Fanny Eustachon, CPHT, École polytechnique, Institut Polytechnique de Paris

Work in collaboration with Dario Benedetti and Edoardo Lauria

$$s \downarrow$$

GFF $_{\phi}$

$$\langle \phi(x) \phi(0) \rangle = |x|^{-(2-s)}$$

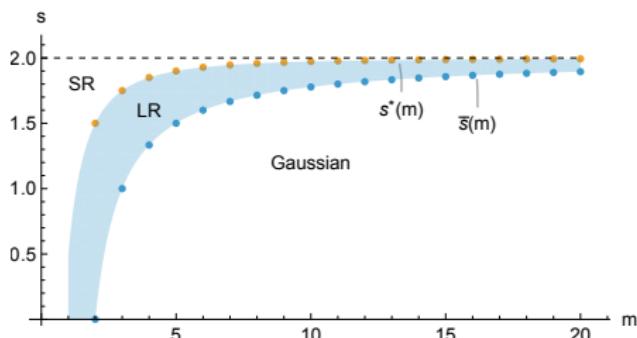


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- **Long-range models:** Applications in experimental statistical models, CFT defects, ...



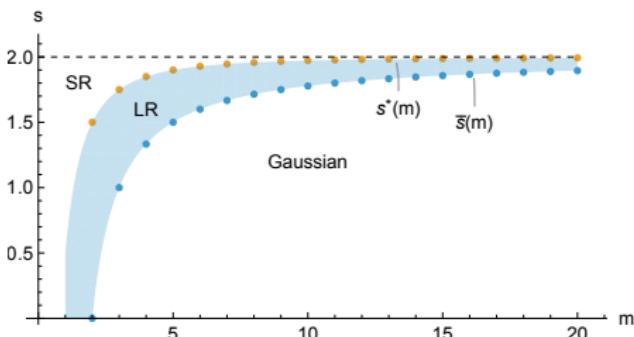
$$\begin{aligned} s & \quad \text{GFF}_\phi \\ & \quad \langle \phi(x) \phi(0) \rangle = |x|^{-(2-s)} \\ \bar{s} & \quad 2(m-1)\Delta_\phi = 2 \\ & \quad \text{GFF}_\phi + \lambda \int d^2x \phi^{2(m-1)}(x) \end{aligned}$$

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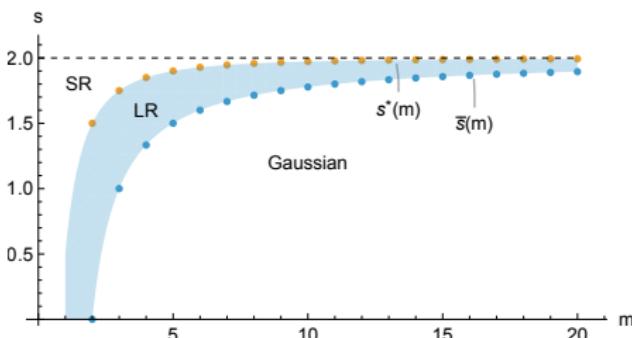
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- **Long-range Ising:** Still unexplored generalizations and variants of the "dual" model
[Behan,Rastelli,Rychkov,Zan,2017]



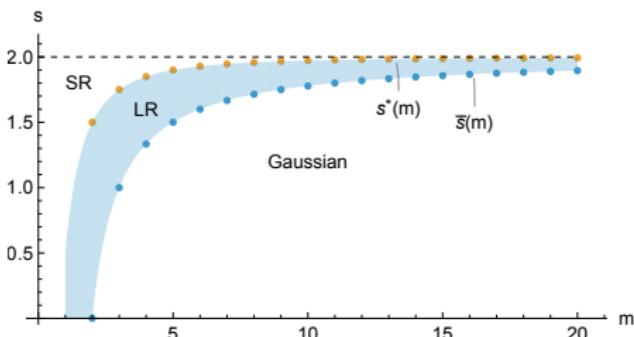
$$\begin{aligned} s & \left| \begin{array}{l} \text{GFF}_\phi \\ \langle \phi(x)\phi(0) \rangle = |x|^{-(2-s)} \end{array} \right. \\ \bar{s} & \left| \begin{array}{l} 2(m-1)\Delta_\phi = 2 \\ \text{GFF}_\phi + \lambda \int d^2x \phi^{2(m-1)}(x) \end{array} \right. \\ s^* & \left| \begin{array}{l} \mathcal{M}_{(m+1,m)} + \text{GFF}_\chi + g \int d^2x x^{\Phi_{(2,2)}(x)} \\ \Delta_\phi = \Delta_{(2,2)} \end{array} \right. \end{aligned}$$

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- **Long-range Ising:** Still unexplored generalizations and variants of the "dual" model [Behan,Rastelli,Rychkov,Zan,2017]
- **Non-unitary minimal model:** Tool to better understand their Landau-Ginzburg formalism [Kelbanov et al.]



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