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Demystifying the State-Operator correspondence in NRCFT

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The usual state-operator correspondence in Non Relativistic CFT maps the positively charged operators to the states in a harmonic trap. We point out that there exists a notion of state-operator correspondence which leverages the $SL(2, \mathbb{R})$ subgroup of Schrodinger group and can be used to extend the state-operator map to the sector with zero charge. We can rederive the unitarity bounds using this map. We further show that the usual NRCFT state-operator map is in fact related to the N-S quantization of relativistic CFT and $SL(2, \mathbb{R})$ subgroup plays a crucial role tying the NRCFT with CFT. The talk will be amalgamation of my unpublished thoughts and arXiv: <https://arxiv.org/abs/1802.02262>.

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