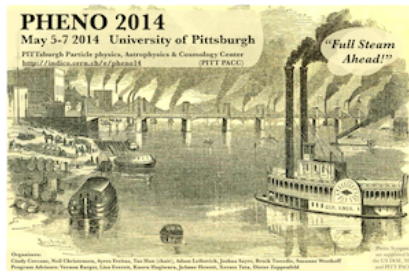


# Phenomenology 2014 Symposium



Contribution ID: 55

Type: not specified

## Dark Sector Mass Relations from RG Focusing

*Tuesday, 6 May 2014 18:00 (15 minutes)*

Dark sector mass relations, such as those which permit near-threshold or near-resonance annihilation in the early universe, could arise due to IR-attractive ratios in renormalization group equations. Achieving a particular ratio requires specific dark matter gauge charges or interactions, leading to predictions about the dark matter properties. Furthermore, additional states with masses comparable to the dark matter mass may be necessary, potentially giving rise to novel phenomenology. We discuss this idea in the context of dark matter charged under a new gauged  $U(1)_X$  that kinetically mixes with the Standard Model hypercharge.

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**Session Classification:** Dark Matter IV