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Exploring near-conformal Hidden Valley theories

Dark-showers offer a compelling collider signature for Hidden Valley models featuring a confining dark sector. Our work extends the investigation of these models to near-conformal theories where the running coupling, controlled by renormalization group equations (RGE), flows near to an infra-red fixed point. We establish a framework of two classes of RGE solutions which cover much of the parameter space of confining theories, allowing us to present the first phenomenological results of such near-conformal dark sector theories.

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