Title: Debate on SD models inequivalent to GR

Date: Jun 26, 2015 04:00 PM

URL: http://pirsa.org/15060034

Abstract:

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What is the most general gravitational intersection theory?

Fine-print:

- Has to be first class wrt diffeomorphisms.
- Contain two propagating degrees of freedom.
- Up to second order in momenta.
- Optional: regular single connected component.

Answer:

$$aR + \frac{\sigma^{ab}\sigma_{ab}}{\sqrt{g}} + (\frac{3}{8}\tau^2 + c\tau + 2\Lambda) = 0$$

(could have e.g. τ_i for different components)



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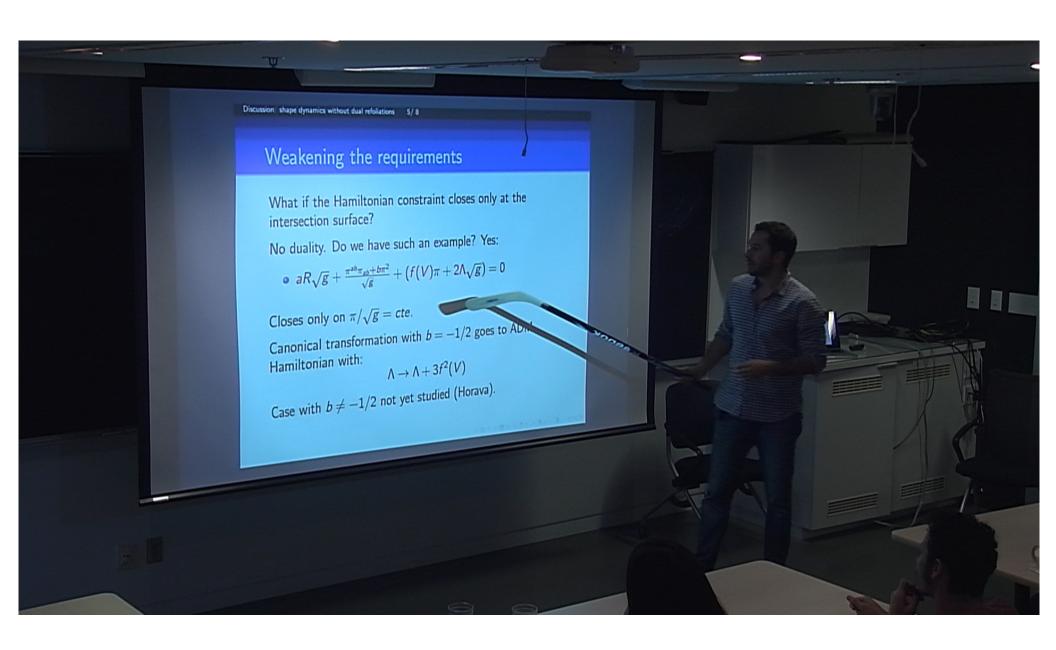
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Are there signatures?

Neutrinos and Ashtekar connection:

Got a volume-dependent cosmological constant. But also relation between extrinsic curvature and momenta disrupted:

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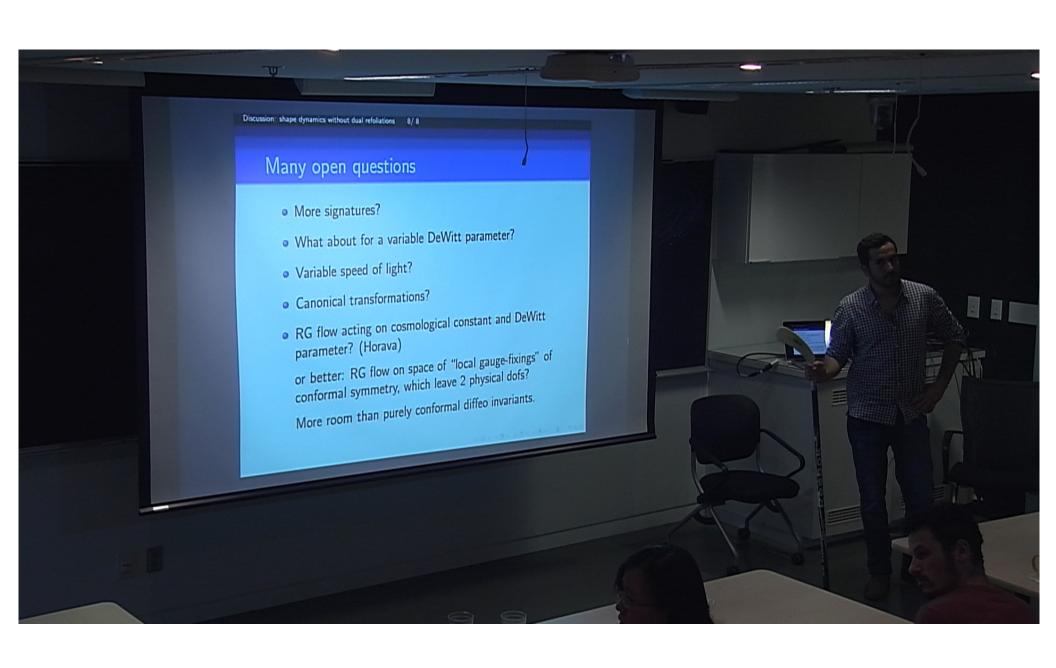
$$\pi_{\mathsf{a}\mathsf{b}} = \mathsf{K}_{\mathsf{a}\mathsf{b}} - \mathsf{K}\mathsf{g}_{\mathsf{a}\mathsf{b}} - rac{1}{2}\mathsf{g}_{\mathsf{a}\mathsf{b}}\mathsf{f}(\mathsf{V})$$

Ashtekar connection in chiral spinor dynamics differs from self-dual connection by torsion:

$$A_a^i = \omega_a^i - \frac{i}{2}e_a^i f(V)$$

(this is all for b = 0)





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