SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 15 Janvier 2019, 14 :00
APC, 646 A - Mondrian
Domaines : hep-th

Titre : *Carrollian fluids and flat holography*

Orateur : **Marios Petropoulos (CPHT - Ecole Polytechnique)**

Résumé : *Various extensions of the AdS/CFT correspondence beyond the realm of asymptotically anti-de Sitter spacetimes have been proposed. Among those, the asymptotically flat spacetimes have played a distinguished and recently revived role. With the exception of three spacetime dimensions, and despite the wide interest and the precise knowledge of the asymptotic symmetries, no concrete proposal was available. Following a macroscopic path, we reconsider the asymptotically flat limit of AdS/CFT andconclude that duals of Ricci-flat spacetimes in the sense of fluid/gravity correspondence are Carrollian fluids defined at null infinity. This approach requires to set up Carrollian hydrodynamics as the limit of relativistic hydrodynamics at vanishing velocity of light. We perform this in full generality using Randers-Papapetrou frames. The method is illustrated for asymptotically flat Robinson-Trautman or Kerr-Taub-NUT families reconstructed using viscous or perfect, time-dependent or stationary Carrollian fluids defined on the Carrollian boundary.*