

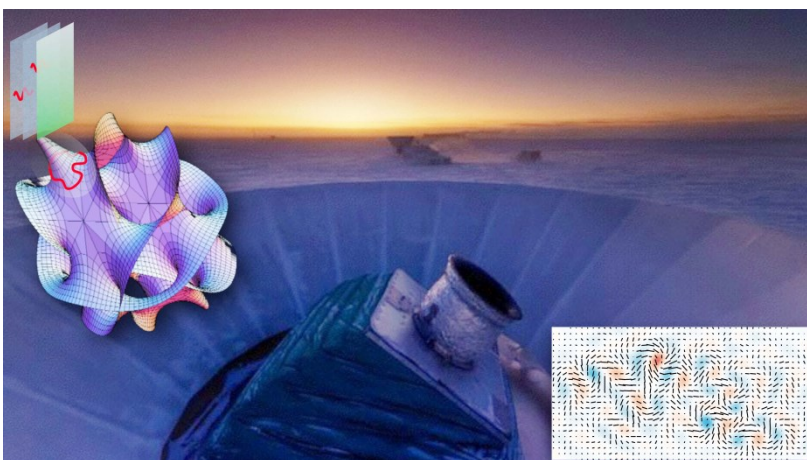


Gravitational Waves from the Big Bang – Inflation in String Theory after BICEP2.

Alexander Westphal (DESY)

Tuesday, 22 April 2014
16:45 h, Auditorium

BICEP2 from Antarctica has given us the first clear evidence for primordial gravitational waves causing B-mode polarization at degree angular scales $\ell < 100$. If interpreted in the context of inflation, their signal corresponds to a tensor-to-scalar ratio $r = 0.16^{+0.06}_{-0.05}$, which disfavors $r < 0.01$ at about 5σ . We will discuss the implications of this result for models of single-field slow-roll inflation. Due to the Lyth bound, the new data represent strong evidence against virtually all small-field models of inflation. We will discuss the need for protective symmetries such as shift symmetries in large-field inflation models which are now favored, and review the situation of string inflation and its large-field version of (axion) monodromy.



Coffee, tea and cookies will be served at 16:30h

After the seminar there is a chance for private discussions with the speaker over wine and pretzels