

The 2023 Shanghai Symposium on Particle Physics and Cosmology: Phase Transitions, Gravitational Waves, and Colliders (SPCS 2023)

Contribution ID: 12

Type: **not specified**

First Order Phase Transitions: How, When and Why?

Friday, 22 September 2023 09:00 (30 minutes)

We discuss several possible scenarios for first order phase transitions (FOPTs) in early Universe which can be tested from gravitational waves interferometers and pulsar timing radio-astronomy. Many FOPTs are inspired by Dark Matter, Neutrino mass, baryon/lepton violations, baryogenesis and Grand Unification Theories.

We will not only discuss first electroweak phase transitions but also FOPTs at higher and lower energies. Concerning low energy phase transitions, recent NANOGrav 15yrs results may provide a hint of FOPTs in the Dark Matter sector.

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Session Classification: Friday 1