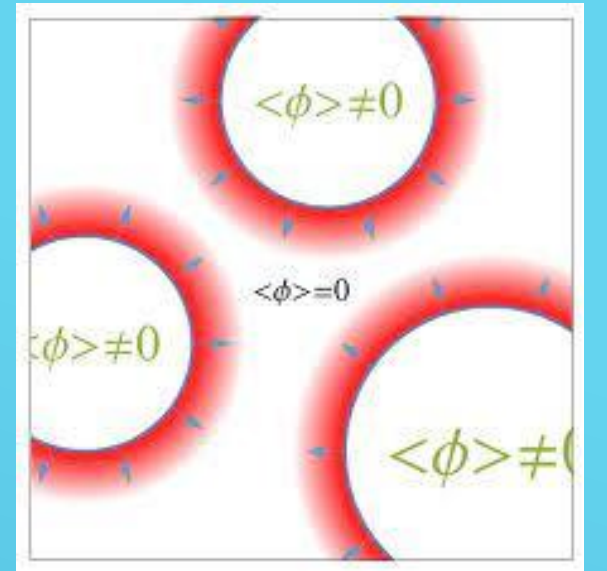


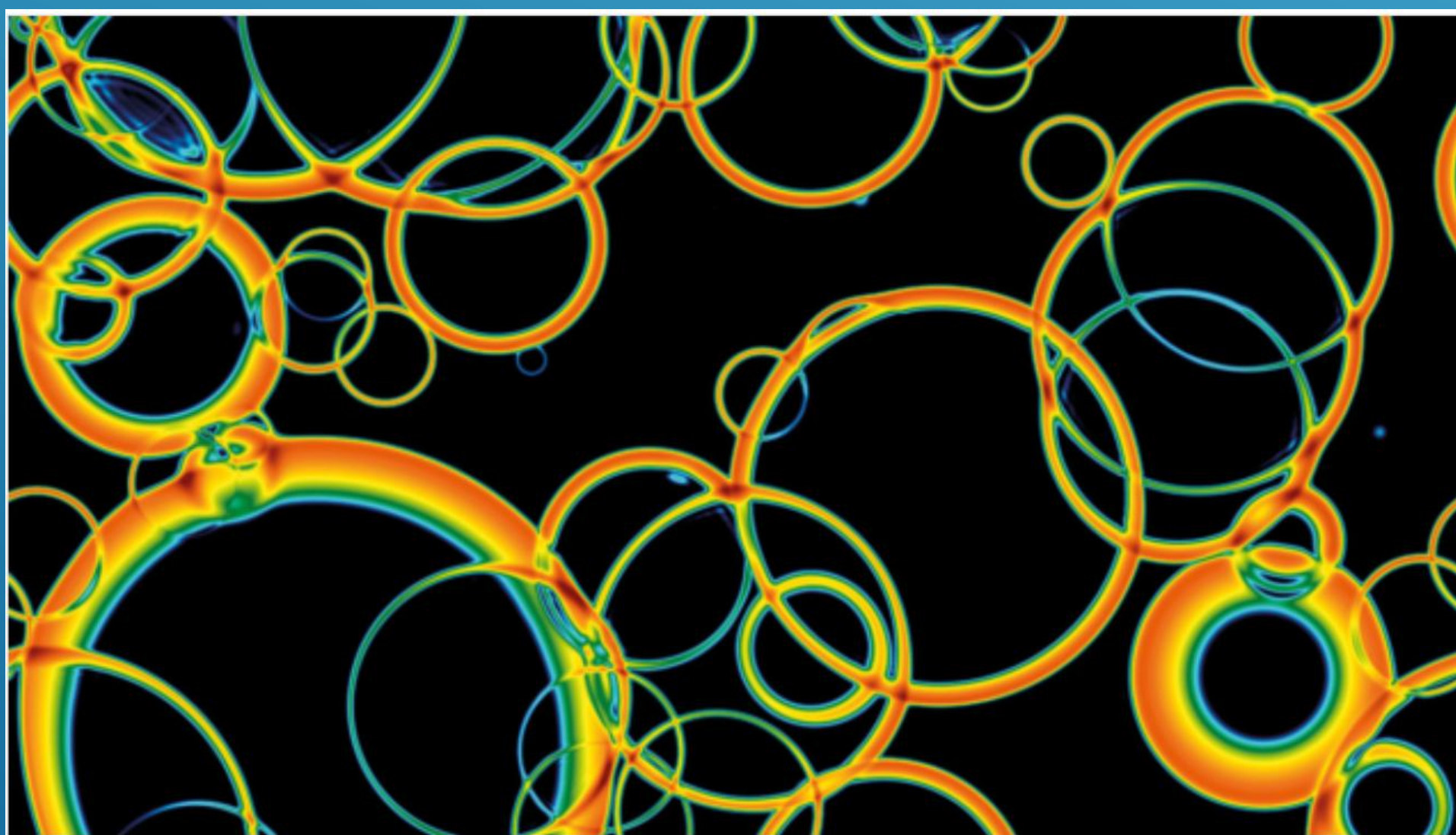


Particle Phenomenology

« Conformal versus Non-Conformal 2HDM: Phase Transitions and Gravitational Waves »

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The dynamics of phase transitions and their resulting gravitational-wave signal are studied in the conformal (C2HDM) and non-conformal (NC2HDM) CP-conserving 2HDM. Conformal tree-level potentials naturally lead to large supercooling when quantum and thermal corrections are included. We however find that first-order phase transitions are more strongly supercooled in the NC2HDM compared to the C2HDM. Finally, we calculate the gravitational-wave signal for both C2HDM and NC2HDM phase transitions, suggesting their detectability in the latter case by future gravitational-wave detectors such as LISA.



Ringling out Simulation of colliding spherical pressure waves from a first-order phase transition immediately after the Big Bang, which would be expected to generate a distinct gravitational-wave signature. Credit: D Weir/U Helsinki

May 5, 2025
Amphi Dirac, 11 am