Detecting Colliding Parallel Universes

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One big question with CPU Theory is: how do we detect universes that are currently in collision?

These are five possible ways.

1. A Pattern In The Cosmic Microwave Background
The strongest place to look is the cosmic microwave background: the afterglow of the early universe. A collision could leave a circular or disk-like temperature anomaly on the sky, possibly with one side slightly hotter or colder than expected. Researchers have searched CMB maps from WMAP and Planck for these kinds of "bubble collision" signatures. Early searches found possible candidates but no confirmed detection. (Feeney et al., 2011)

2. Polarization Scars In The CMB
Temperature alone is noisy because random CMB fluctuations can mimic strange spots. A stronger case would need matching polarization patterns: a specific orientation pattern in the ancient light. Forecast studies argue that CMB polarization helps distinguish a real collision from a statistical fluke, though even ideal future data may only modestly improve constraints beyond Planck-like data. (Feeney et al., 2015)

3. Large-Scale Asymmetry In The Universe
A collision might create a preferred direction: one side of the visible universe could have slightly different density, temperature, or curvature than the other. Astronomers would look for unusual large-scale patterns in galaxy surveys, gravitational lensing maps, or matter distribution that line up with a CMB anomaly. (Fujita & Kamada, 2016) (Shamir, 2022) (Hansen et al., 2009) (Davies, 1983)

4. Unusual Gravitational-Wave Background
A violent early-universe interaction could, in some models, create a background of gravitational waves. This would not look like a black-hole merger signal. It would be more like a faint, all-sky hum from the early universe. At present, this is much more speculative than the CMB route. (Christensen, 2019) (Allen, 1997) (Schultz, 1989) (Ye & Silvestri, 2024)

5. Differences in Time
Measurable differences in location pockets of differences of (atomic) time, a differing of two "arrows of time". If two universes had different vacuum states or different thermodynamic histories, a boundary region could have strange causality effects: distorted aging, memory glitches, reversed entropy pockets, or time-ordering problems. A detectable "change in time" would probably be measured as clock desynchronization. Scientists would compare atomic clocks, pulsar timing, GPS satellites, radioactive decay, and astronomical redshifts. If all timekeeping systems shift together, that suggests real spacetime distortion. If only

atomic/chemical clocks shift, that suggests changed constants or changed particle behavior. (Hartford & Rettberg, 2019) (Gal-Or, 1987) (Strick, 1971) (Gretener, 1961) (Derevianko & Pospelov, 2014)

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