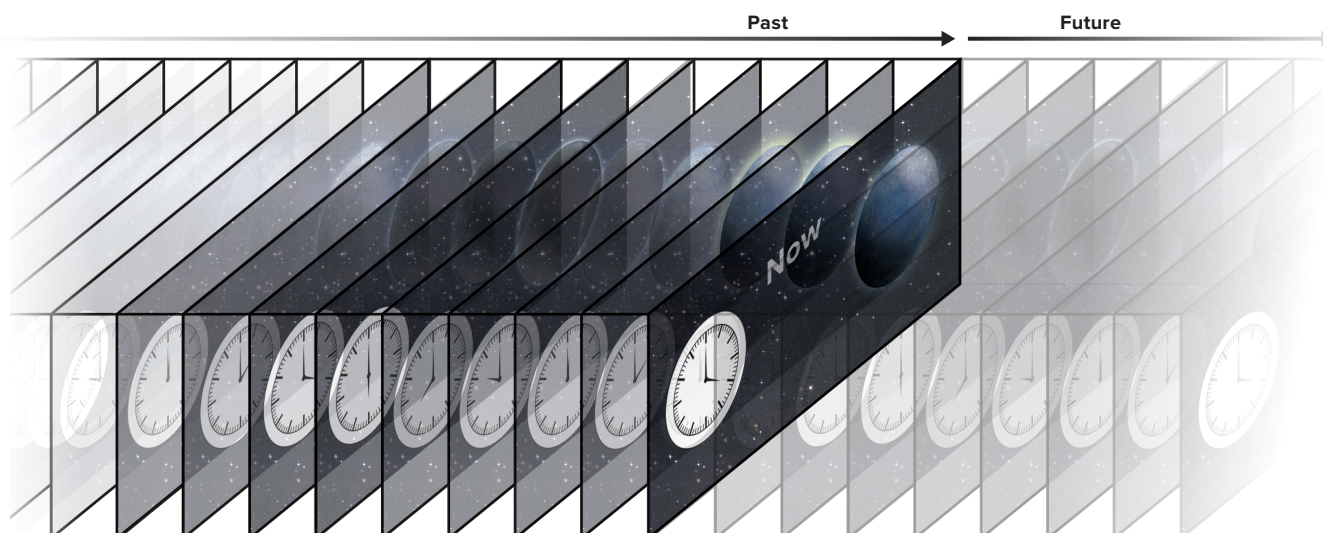


## The Block Universe

The 'presentist' view is that only the present 'now' really exists. But the relativity of simultaneity suggests there is no unique 'now' that all observers can agree on. This has led some physicists to the view that the past, present, and future all co-exist, in the block universe.



Imagine Sunita, an astronaut on the International Space Station (ISS), starts running a marathon. According to on-board clocks, her colleague Chris strummed a chord on his guitar at that exact moment. The yellow slices show successive 'nows' as experienced by Sunita and Chris on the ISS.

But Marvin, an alien zipping past the ISS in one direction, could argue that Sunita began running after Chris played his first note because his 'now' slices through the block at an angle shown by the pink slice. Meanwhile, an alien, called Spock, shown by the blue slice, zooming in the opposite direction could say that Williams started first.



Observers in relative motion have different 'now' slices, and thus they disagree on which events occurred simultaneously from their perspective.