

# Finding Gravitational Waves from the Early Universe

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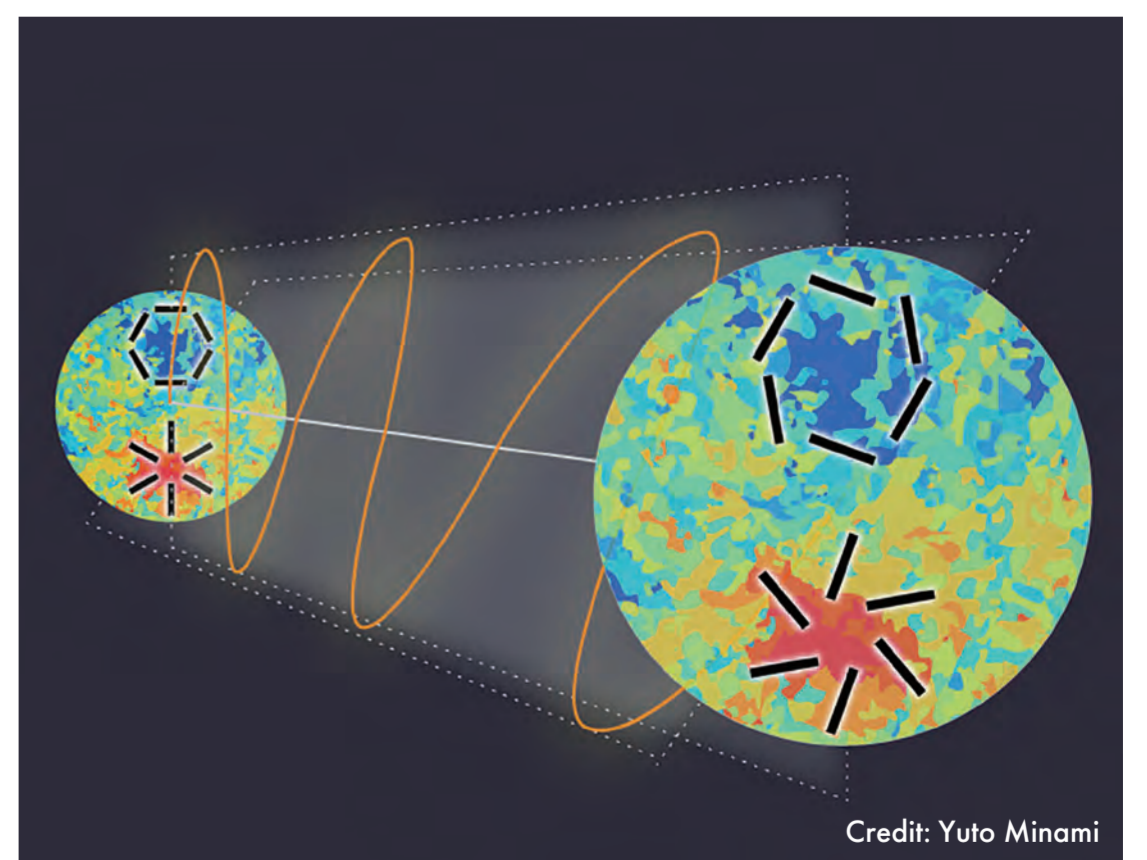
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via Zoom  
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The Cosmic Microwave Background (CMB) gives a photographic image of the Universe when it was still an “infant”. We have been using it to test our ideas about the origin of the Universe. The CMB research told us a remarkable story: the structure we see in our Universe such as galaxies, stars, planets, and eventually ourselves originated from tiny quantum fluctuations in the period of the early Universe called cosmic inflation. While we have accumulated strong evidence for this picture, the extraordinary claim requires extraordinary evidence. The last prediction of inflation that is yet to be confirmed is the existence of primordial gravitational waves whose wavelength can be as big as billions of light years. To this end we have proposed to JAXA a new satellite mission called LiteBIRD, whose primary scientific goal is to find signatures of gravitational waves in the polarisation of the CMB. In this presentation we describe physics of gravitational waves from inflation, and the LiteBIRD proposal.



Credit: Yuto Minami

