An international team of researchers working on the COSINE-100 experiment in South Korea has been unable to reproduce the signals reported by the researchers working on the DAMA/LIBRA experiment in Italy despite using similar technology. Their paper was published in the journal Science Advances.

Over the past several decades, physicists around the world have been trying to find physical evidence of dark matter—the theoretical stuff that they believe makes up approximately 85% of all matter in the universe. Researchers have found indirect evidence of its existence through astrophysical observations such as gravitational lensing. But to date, little to no direct physical evidence of its existence has been found, though one team of researchers in Italy would disagree. That group is working on the DAMA/LIBRA experiment, and they claimed in 2018 that they had found physical evidence of dark matter in the form of flashes of light in sodium iodide crystals. The researchers believed the flashes are evidence of dark matter colliding with atoms in the crystals. They found that these flashes of light increase in number every June and lessen every December, and they suggest that this is due to the way Earth moves through dark matter in the Milky Way—sometimes moving faster and sometimes slower.
Unfortunately, no other team has been able to replicate the results of the DAMA/LIBRA experiment, leading many to discount their findings. Still, because most in the field agree that the team in Italy actually observed something, others have continued to try to explain their observations, with some using different kinds of technology. In this new effort, the team working in Korea attempted to replicate the findings in Italy by mimicking as closely as possible the technology and conditions used in Italy. Unfortunately, there were no similar flashes in their crystals, striking another blow to the results of the team in Italy. But the researchers still believe that the team in Italy found something; they simply do not believe it is evidence of dark matter.