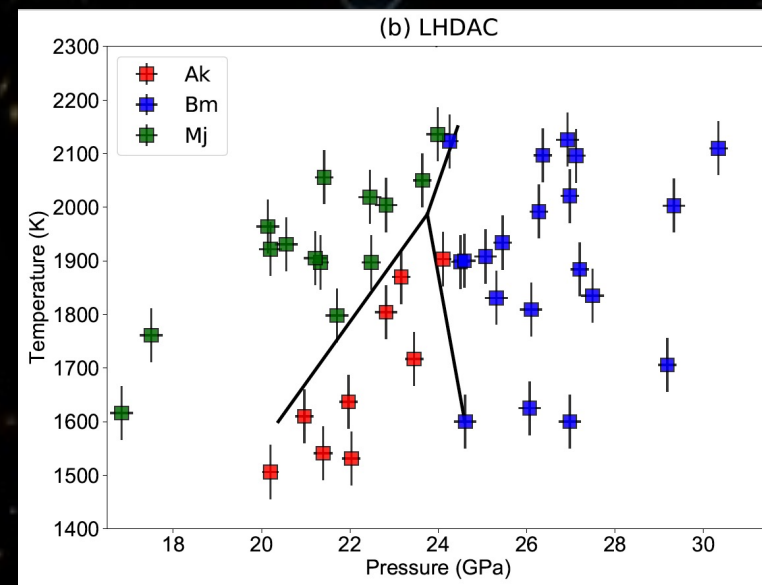
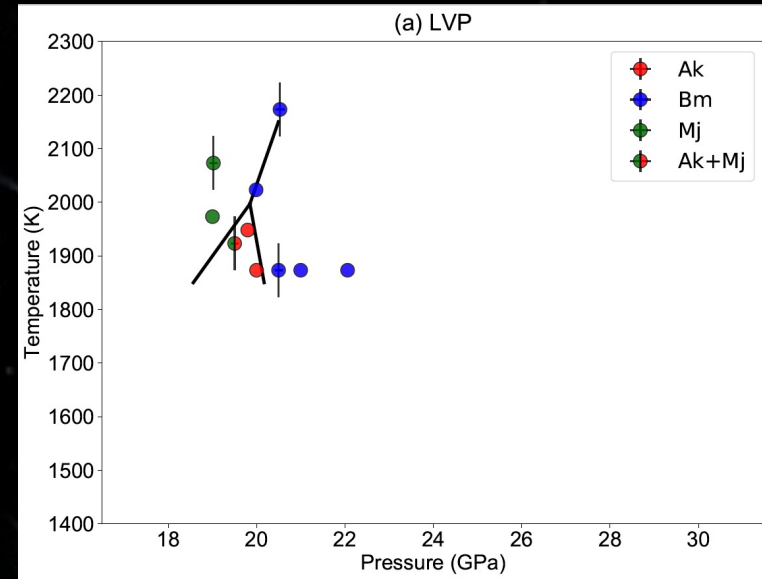


MINERAL MAKING MYSTERY



- ✦ The internal structure of exoplanets is not known for sure, but we can estimate what they might be using our improved understanding of temperature and pressure conditions in Earth's mantle.
- ✦ The same minerals should be produced at the same temperature and pressure conditions regardless of the methods used to make them.
- ✦ However, when researchers at Arizona State University tried to make a mineral called bridgmanite in the lab, they couldn't recreate it at the expected pressure.
- ✦ Without knowing the right conditions to create specific minerals, unexpected and unwanted minerals are made instead, wasting time and money.
- ✦ Now there is a new question of why different methods could produce different minerals under the same conditions. What other factors are at work?



Data from the (a) Large Volume Press (LVP) and (b) Laser Heated Diamond Anvil Cell (LHDAC) experiments, two laboratory methods used to simulate mineral creation in Earth's interior. The minerals are Akimotoite, AK; Majorite, Mj; and Bridgmanite, Bm.