

Question to the Notation

▶ The question you should have is:

- It was stated that the "R" in the polytype notation stand for "*rhombohedral*". A rhombohedral unit cell is defined by $a_1 = a_2 = a_3$; $\alpha \neq \beta \neq \gamma$.
- So why the hell are two lattice parameter (**a** and **c**) given in the table for the **15R-SiC** polytype?

▶ Good question!

- The answer is that the "R" refers to the smallest Bravais lattice cell that is contained in the structure and thus would be sufficient to describe the full structure. The lattice constants given, however, refer to the largish hexagonal unit cell that contains **15** layers referred to with the "**15**" in **R15**. The rhombohedral cell is simply a sub-unit of this hexagonal cell.
- This is simply more convenient; because we all can easily see the hexagonal cell in some drawing of the stacking sequence, but not so easily the rhombohedral cell contained in it.

▶ And this is also the reason why for the "**3C**" polytype we do *not* give the parameters of the hexagonal cell, which logic now would demand, but the (one) lattice constant needed for the (one) cubic lattice. We simply *know* it's cubic, even if it is hard to see, too.