PNCS17
The 17th International Conference on the Physics of Non-Crystalline Solids

# Review of The 16th International Conference on the Physics of Non-Crystalline Solids / Bond Angles and The Structure of Vitreous $BeF_2$

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A review is given of the 16th International Conference on the Physics of Non-Crystalline Solids. PNCS16 was held at the University of Kent in Canterbury, United Kingdom, on 11-15 July 2022. This was a special time, because it came shortly after the end of periods of lockdown during the Covid-19 lockdown, and it was the first opportunity for many delegates to meet with international colleagues in the shared endeavour to study the physics of non-crystalline solids. Delegates came from 26 countries, and 141 presentations were given, covering a wide range of topics from applied subjects, such as nuclear waste storage and bioactive glasses, to theoretical subjects, such as the nature of the glass transition and theoretical simulation of glass structures. Special sessions were held in honour of esteemed colleagues, Austen Angell and Neville Greaves, who had recently passed away. Two prizes were presented for the best oral presentations by students, and two more prizes were presented for the best posters.

Vitreous $BeF_2$ has a structure formed of corner-sharing $BeF_4$ tetrahedra, which appears to be similar to that of vitreous $SiO_2$. The strength of Be-F bonds is much less than that of the Si-O bond, and thus $BeF_2$ may be considered a weakened analogue of $SiO_2$. $BeF_2$, however, is much less studied than $SiO_2$ due mainly to its high toxicity. A report is given of a neutron diffraction study of the structure of vitreous $BeF_2$, with particular emphasis on the bond angle distribution, both in $BeF_2$ and in other similar systems.