

The Crowdion

Advanced

A crowdion is a (postulated) special low temperature configuration of interstitials in **fcc** metals.

- For making a crowdion, image the row of atoms along a densely packed $\langle 111 \rangle$ direction. Now take a number of atoms - say **10** - and "crowd in" one more.
- A kind of elongated interstitial along a $\langle 111 \rangle$ direction is obtained - a crowdion.

There was a big scientific controversy over the question if crowdions actually exist as a metastable interstitial configuration in the seventies. This controversy has never been finally resolved; however, most researchers in the field believe that it does not exist.

- The advocates of crowdions came mainly from the [Max-Planck-Institut für Metallforschung; Institut für Physik](#) in Stuttgart; the opponents clusters around the research Center Jülich.
- The following schematic drawing illustrates the crowdion configuration (for sake of clarity, the crowdion here is along $\langle 100 \rangle$ in a cubic primitive crystal instead of $\langle 111 \rangle$).

