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Summary of the CCAlloys 2014 discussion session in Munich
July 18, 2014, 10:30 am - noon

During the discussion there were two major discrepancies often showing up:

single phase ↔ properties

fundamentals ↔ applications

The wishes for joint action were:

- Web-Site (after the conference Nelia Wanderka and Anna Manzoni did volunteer for setting up a web site and start a data base, please contact them directly if you have suggestions)
- Data Base
- Joint publication
- founding a committee

The major tasks for the near future have been identified to be:

- determination of short range order parameter (SRO) / local fluctuations
- cryogenic properties

There were different routes of future research identified:

- stick to single phase alloys: determine electrical properties, radiation damage, diffusion,… (Malcolm Stocks + Oleg Senkov).

- fcc mechanical properties of single phase high entropy alloys would be nothing special (Vacek Vitek).
- Anthony Dlouhy and Easo George mentioned cryogenic behavior (maybe nano-twinning) with very specific properties: fracture toughness 200 MPa√m, 80% elongation to failure, 1000 MPa UTS.
- Hamish Fraser: We should characterize microstructure more careful than it has been done in literature before.
- Matt Millers emphasize the possibilities for doing dynamic measurements. Different light sources of a possibility for real time experiments are readily available.
- Regarding the data base proposed by several attendees, Jim Cotton pointed out that all the determined data should be published, not only the “nice”, best and beneficial ones.
- Finally also from several attendees (e. g. Ralph Drautz) it was mentioned to influence funding agencies to emphasize the importance and future of the field of compositionally complex alloys.
- Alternative names have been discussed briefly:
    - compositionally complex alloys
    - baseless alloys
    - multi-principal element alloys
    - high entropy alloys