

Abstract Guideline:

Please write a paragraph with maximum 200 words containing following

1. Start the abstract with significance of your topic and area of research.
2. Articulate the prevalent state-of-the-art, focus areas and key gap your work will be cover.
3. Detail the scope of the work done which will be presented in this talk.
4. Highlight the key results and insights obtained in this work.
5. Describe the significance and future of this work.
6. The title of paper (**Times New Roman 14 bold**) (**Spacing 1.0**)
7. Name, organization details, email, contact: (**times new roman 12 bold**)
8. Abstract title: (**times new roman 12 bold**)
9. Abstract text times new roman 12 Justified
10. *Keywords: Italic Times bold 12*
11. A sample abstract is also attached for reference.

An overview of microstructure and texture development in β -Ti alloys

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ABSTRACT

Titanium and its alloys find widespread applications in aerospace industry due to excellent combination of mechanical properties, corrosion resistance and light weightness. Titanium alloys are broadly classified as α -Ti (hcp), $\alpha+\beta$ Ti (hcp+bcc) and β -Ti (bcc) alloys based on the microstructure. β -Ti alloys are characterized by high strength and good ductility. β -Ti alloys can be classified on the basis of molybdenum equivalent (Mo_{eq}) as stable ($Mo_{eq} > 25$) and metastable ($Mo_{eq} < 25$) alloys. After cold rolling, β alloys shows the presence of typical bcc rolling textures viz. ND fibre (ND//<111>) and RD fibre (RD//<110>). The intensity of RD fibre increases with the increase in cold rolling reduction for β alloys. β alloys also show the presence of strong rotated cube texture ($\{001\}$ <110>) along with RD and ND fibres after cold rolling. With the increase in deformation, strain induced martensite (SIM) also forms. Aging in β alloys leads to precipitation of ω phase, which is of high strength and hardness. β alloys show an optimal combination of strength and ductility, which is realized through a mixed microstructure possessing ω and globular/ellipsoidal or fine lenticular/acicular α particles dispersedly uniformly in the β matrix.

Keywords: β titanium alloys, cold rolling, microstructure and texture.