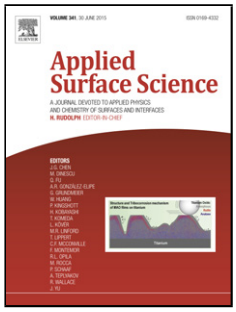

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A novel anti-frictional multiphase layer produced by plasma nitriding of PVD titanium coated ZL205A aluminum alloy

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Highlights

- Heat treatment is integrated with the surface modification of Al alloy to improve the comprehensive properties.
- Multiphase layer is fabricated with significantly increased layer depth.
- The surface and core hardness increases from 27HV to 457HV and 65HV respectively.
- Wear rate for multiphase layer decreases 62.4% and 49.28% compared with the substrate and Ti film.

Abstract