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## A review of the relationship among texture, grain size, slip bands formation and fatigue property in aluminum alloys

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Texture and grain size was of crucial importance to fatigue crack propagation in aluminum alloys due to boundary character between neighboring grains and crack-closure effect. The current understanding of the relationship among texture, grain size, slipping and crack propagation at fatigue stage I to III was reviewed and discussed. This includes understanding slip band formation, twist boundary character and corresponding

fatigue mechanism. The recommendations for improving fatigue property were also proposed. Intensifying Goss, P and Q texture and moderating these grains was an effective method to improve the resistance of fatigue crack propagation in Paris regime. However, in fatigue stage I, due to predominated effect of crack-closure effect, large grain is beneficial for improving the threshold value of crack propagation.

### Biography

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