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تأثير الأضافة على سبيكة قصدير يوتيكتية خالية
من الرصاص لتحسين استقرار بنيتها المجهرية

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Faculty of Education
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"Alloying Effects in Near-Eutectic Sn-Lead Free Solder for Improving Microstructural Stability"

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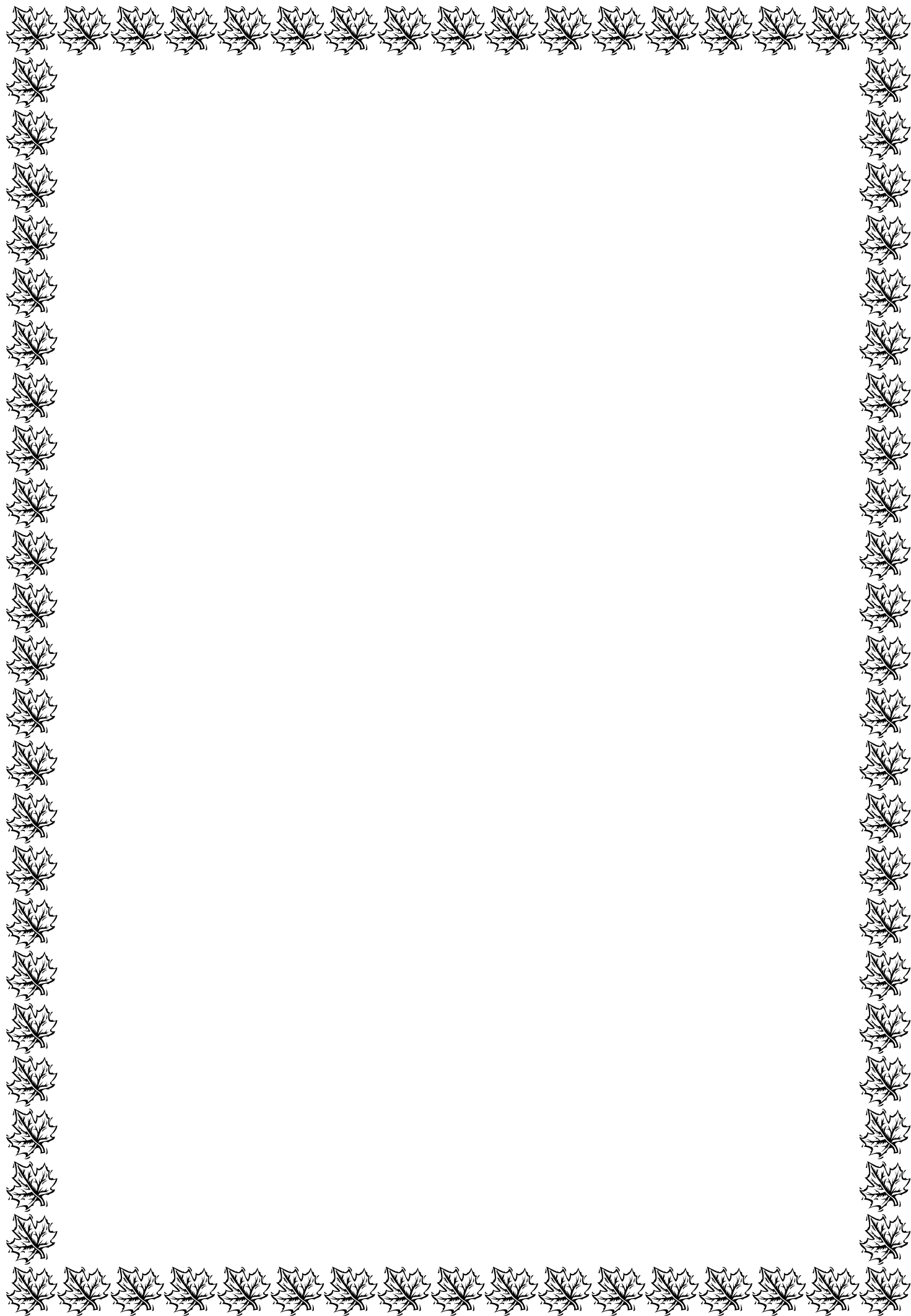
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ABSTRACT

The present work is devoted to investigate:-

- 1) The effect of grain diameter on creep behaviour of Sn - 3.5wt% Ag and Sn-3.5wt% Ag -1 wt% Zn wire specimens tested at different testing temperatures, T_t , of 303, 323, 348 and 398K under different stresses, σ , ranged from 7.1 to 12.4 MPa .
- 2) The effect of both ageing temperatures (353, 373, 393 and 413K and ageing times (1,20 and 50h) on creep behaviour of Sn 3.5wt% Ag and Sn-3.5wt% Ag -1 wt% Zn wire specimens having a constant grain diameter of $125\mu\text{m} \pm 2\%$ and crept at room temperature (300K) under different stresses, σ , ranged from 8.8 to 14.2 MPa .
- 3) The structural changes accompanying both grain growth and ageing processes through optical and electron microscope investigations in both solder alloys.

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