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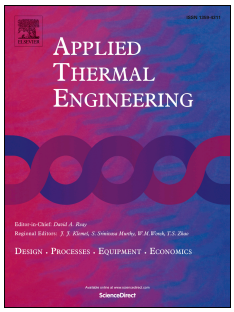

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Aluminum and silicon based phase change materials for high capacity thermal energy storage

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Abstract

Six compositions of aluminum (Al) and silicon (Si) based materials: 87.8Al-12.2Si, 80Al-20Si, 70Al-30Si, 60Al-40Si, 45Al-40Si-15Fe, and 17Al-53Si-30Ni (atomic ratio), were investigated for potentially high thermal energy storage (TES) application from medium to high temperatures (550~1200 °C) through solid-liquid phase change.