Compositional heterogeneity in deformed olivine induced by dislocation creep

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We report compositional heterogeneity in deformed olivine induced by dislocation creep, which is formed by concentration of Fe into sub-grain boundaries. This should be caused by cottrell atmosphere in core of edge dislocation. The sample we observed is olivine (ca. Fo91) which is included in dunite/harzburgite of Uenzaru peridotite.