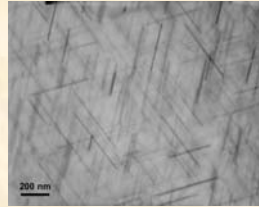
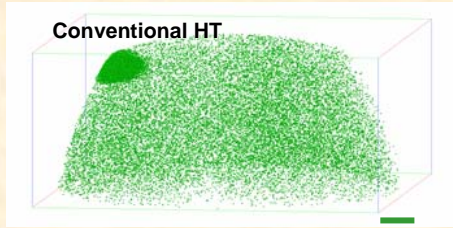


Rapid Infrared Heating Technology Offers a Low-cost, Energy Efficient Heating Methodology with Significant Enhancement in Material Properties

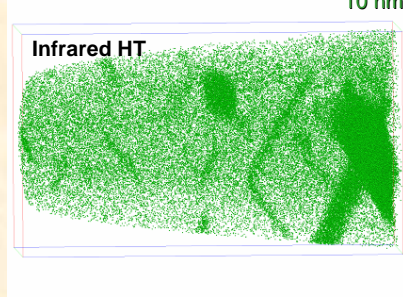
Science



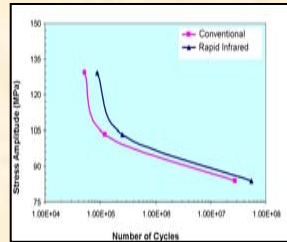
Energy



TEM results showing Al_2CuMg precipitates in aluminum matrix



Atom probe results showing finer distribution of nano-size Al_2CuMg precipitates in Infrared heated forgings



Finer precipitate distribution gives improved fatigue life of the component



Full-scale Production Based Infrared Furnace operating at Queen City Forging Company



Preheating of Aluminum Billets



Final Product-Machined Impellers



NSF, DOE, OS, FE, EERE (ITP)



QUEEN CITY FORGING COMPANY



KOMTEK



Infrared Heating Technologies



FORGING Industry Assoc

OAK RIDGE NATIONAL LABORATORY
U. S. DEPARTMENT OF ENERGY

EERE- INDUSTRIAL TECHNOLOGIES PROGRAM

