

**Development of Y-system High Temperature Superconducting Wire
For Railway Electric Power Applications**

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The expectations of the electric power application of the Y-system high temperature superconducting (HTS) wire are high because of not only its higher mechanical properties but also its high critical densities in higher magnetic fields, compared with the Bi-system HTS wire. We developed not only a Y-system HTS wire but also a method for transforming it into the one usable in its AC/DC application which has been so far hindered by its large dissipation in varying magnetic fields and its little tendency to delaminate. Then, methods for scribing its superconductive layer, etc. by a yttrium aluminum garnet (YAG) laser, and annealing it afterwards were developed.