

**Development of Temperature Measurement Technique
inside Cryogenic Equipment Using Optical Fiber**

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The superconducting magnet using high-T_c superconducting wire is being developed for practical applications by many research groups throughout the world. Monitoring the temperature inside the superconducting magnet is effective to detect the indication of failures and prevent the magnet suffered from damage. It is possible to measure the multipoint temperature by one optical fiber, instead of setting the conventional sensors on each point. Also, the optical fiber sensor has the merit of low heat invasion into the cryogenic equipment. We report the temperature measurement technique inside cryogenic equipment using the optical fiber.