

# **Study on Defect Evaluation Technology of Water Wall Tube within the Fluidized Bed Boiler using Remote Field Robot Scanner**

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For the defect evaluation technology of water wall tube within the fluidized bed boiler using the remote field robot scanner, we designed the robot scanner on the basis of the signal wave form analysis, the mode simulation make-up and the water wall tube artificial defect tester. After that, we established data on the frequent defect occurrence for the fluidized bed boiler to meet the demand for the quantitative evaluation method that caused the combustion characteristics of the water wall tube. Also, we needed the diagnostic criteria establishment according to the test environment (tube material, thickness, defect shape ect.) and the need of the test method development for the magnetic material tube inspection using the remote field eddy current. As a result of that, we found the possibility of the fast inspection technique for the development of non-destructive test method about the magnetic material water wall tube within the fluidized bed boiler using the remote field robot scanner. The test equipment is composed of the four strong magnetic wheel that can be attached at the vertical water wall tube and the high quality LCD camera that can inspect five tubes at once at a long range. Key Words : Remote Field, Robot Scanner, Water Wall Tube, Fluidized Bed Boiler, Defect Evaluation