

Development of Online Defect Detection System for High End Wires

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Wire rods are drawn into various diameters—in multi pass wire drawing machines. These drawn wires should be free from surface defects. Sometimes surface defects are observed in finished wires which can be caused due to poor wire rod surface quality or can be generated during wire drawing process. At present quality assurance is based on visual inspection. Surface quality of entire length of drawn wire cannot be ensured by the existing system causing defective wires delivered to customers. There is a need to develop and implement a low cost online defect detection system to ensure that the finished wires are free from surface defects. In this work, a new system for online inspection of thin wires has been developed. The system will be capable of detecting various types of defects like sliver, transverse crack, fin and lap discontinuities that commonly arise in the process of wire drawing based on the signature of the received signal. This paper will demonstrate the need and way forward to develop a low cost defect identification system for thin wires.

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