

# **Optimal voltage control by wind farms in distribution networks using regression techniques**

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## **Abstract-**

**Due to the growth of the wind power penetration, the voltage control by this technology must be evaluated. The aim of this control is the minimization of the distribution losses while keeping away the system from voltage collapse. This paper investigates if it is possible to assess accurately the optimal voltage control of wind farms using simple regression functions instead of running an Optimal Power Flow (OPF) each time. The methodology proposed is illustrated considering an actual distribution network comprising 13 wind farms of the Spanish power system.**

**Index Terms- Artificial Intelligence, Voltage Control, Wind Power.**

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