CONTAMINATION LEVEL ESTIMATION METHOD FOR HIGH VOLTAGE INSULATORS

A tool for accurately estimating the contamination level of HV insulators without human intervention.

THE INVENTION

The present invention relates to image processing, and particularly to a contamination level estimation method for high voltage insulators that uses image processing to extract high voltage insulator features, and a neural network to correlate the insulator captured image and contamination levels.

MARKET NEED

- Saudi Electricity Company spends around 15 million Saudi riyals annually for washing transmission line insulators only.
- Regular Insulators washing is the commonly used method. But it could lead to unscheduled washing even when there is no requirement.
- Monitoring and estimation of the contamination level for HV insulators will provide essential information for maintenance departments in the electric utility companies to properly schedule the optimal time for washing.

ADVANTAGES OF CONTAMINATION LEVEL ESTIMATION

- Prevents catastrophic flashovers and reduces forced outage time by giving accurate information about the contamination level in advance without human intervention.
- Enables efficient maintenance planning and reduce maintenance costs.
- Improves the overall reliability of the electrical system.
- Enables efficient use of limited manpower and resources by establishing priorities for maintenance of insulators units.

READINESS FOR MARKET / LOOKING FOR A DEVELOPMENT PARTNER

The Proof-of-concept has been done for this technology. We are seeking industrial partner to perform the validation work.
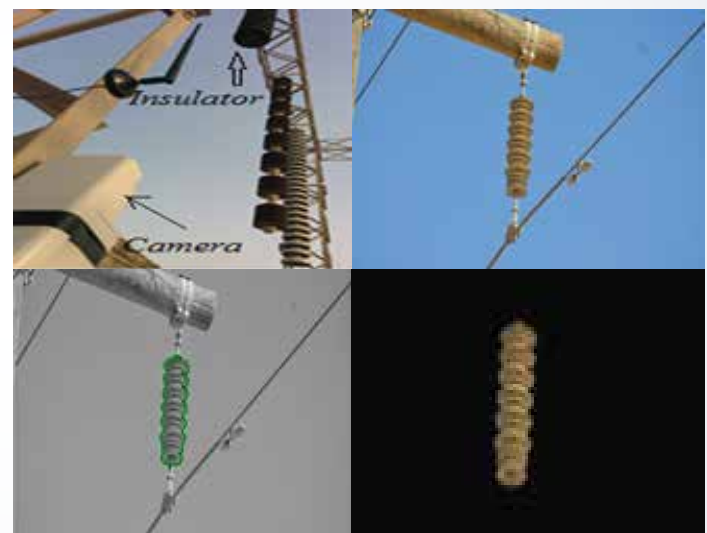
PATENT PROTECTION

This technology is protected under issued US Patent # US 8400504.

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