Computer based Control of the Separation Process in a Combine Harvester

This paper addressed the design of a control system for a rotary threshing and separation system in a combine harvester. Utilising a distributed control architecture containing all observable crop flow parameters, the rotor speed is adjusted to maintain acceptable separation loss and grain damage using distributed impact sensors and a grain quality sensor (GQS). The GQS settling time for rotor changes is significantly reduced using a model based observer facilitating faster adjustment for grain losses in varying conditions.

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Contributors: Hermann, D., Scholer, F., Bilde, M. L., Andersen, N. A., Ravn, O.
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