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Production control in multistage systems with variable yield losses. (English) Zbl 0642.90046

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Many manufacturing processes involved in the fabrication and assembly of "high-tech" components have highly variable yields that complicate the planning and control of production. We develop a procedure to determine optimal input quantities at each stage of a serial production system in which process yields at each stage of production may be stochastic. The procedure is applied to an example in the manufacture of a light-emitting diode (LED) display using actual yield data. We also provide a brief analysis of the quantifiable savings obtained by reducing the variability of the yield at one production stage.

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