考慮預防保養之X管制圖經濟 : 統計設計之研究

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摘 要

隨著科技的進步，自動化生產設備已逐漸取代人力生產，因而在製造的過程中，對自動化生產設備加以保養，減少製程發生變異，可有效提升產品品質並降低生產成本。傳統的管制圖運用抽樣的統計特徵值來繪製管制圖，圖中包含中心線與管制界限，當製程發生非機遇原因使平均值超出管制界限時，製程則由管制內轉變為管制外，透過管制圖的監控可及早發現異常。由於傳統的管制圖未考慮到經濟層面，故發展出管制圖的經濟設計。管制圖的經濟設計雖然可以得到較低的成本，但在型I誤差和檢定力的統計特性方面表現並不好，故將兩者結合以彌補彼此的不足。然而，一般管制圖設計也未考慮到機器設備之預防保養，故本研究以<img src= ”/theabs/image?id=001&account=097DYU00030019 ”>管制圖之經濟設計為基礎，在考慮機器設備之預防保養情形下，加入統計條件限制，以建立管制圖設計分析模型，並找出管制圖經濟—統計設計參數值。

關鍵詞 : 管制圖、經濟—統計設計、預防保養

目錄

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