WEAVE COLOUR SCOPE INSPECTION IN JACQUARD WOVEN FABRICREPRODUCTION IMPROVEMENT

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Abstract

Producing a wide scope of weave colours is challenging in modern Jacquard weaving with limited weft colour variety. The subtractive primary colour yarns (cyan [C], magenta [M], yellow [Y], and black [K]) are used to replicate varied Jacquard designs. However, there is stilla limit to what CMYK can create, which can only display approximately 56% of the colours which are perceived by human eyes. There is potential to improve colour reproduction quality by expanding a feasible weave colour scope. In colour printing, six colour pigments (i.e., cyan[C], magenta [M], yellow [Y], red [R], green [G], and blue [B]) are popularly used as primarycolours for colour reproduction. In this research, weave colours that are created by combiningtwo sets of primary colours from different colour systems were examined. Weft yarn colours are selected in line with the six colours and inspected a feasible weave colour scope. The groupof yarns are paired, and 15 colour combinations are designed to create a prototype of weave colour samples. Jacquard fabric samples are measured by spectrophotometer and described by the CIELAB colour space. In this study, the weave colour experiment results are introduced in three categories to introduce [R], [G] and [B] to Jacquard woven fabric.