

融合主客观信息的皮肤状态模糊综合评价研究

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摘 要: 基于评价指标的多样性与评价标准边界的模糊性, 首先提出用改进的非线性 CRITIC 法确定皮肤各单项指标权重, 物理意义明晰并最大程度地利用了数据的差异信息; 而后提出采用模糊隶属度融合皮肤状态实测数据特性与领域专家经验; 最后, 通过模糊矩阵合成计算出测试样本对应皮肤状态的评价等级。研究结果与领域专家的评价结果具有较好的一致性, 表明所提出方法在实际应用中的可行性与有效性。

关键词: 皮肤状态; 模糊综合评价; 改进 CRITIC 法; 模糊隶属度

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The Fuzzy Comprehensive Evaluation of Skin Condition Based on the Information of Subjective and Objective Fusion

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Abstract: On the basis the diversity of evaluation index and boundary ambiguity of evaluation standard, this paper developed nonlinear correlation coefficient applied in CRITIC method to determine the weight of each single index which has clear physical meaning and maximizes the use of test data and information difference; then synthesize the skin condition index characteristics and the experience of experts by the fuzzy membership function; finally the evaluation grade of the skin condition would be achieved by the fuzzy matrix synthesis algorithm. The evaluation results of experiment and the experts in the field have a good consistency. It indicates the feasibility and effectiveness in reality of the proposed evaluation method.

Key words: skin condition; fuzzy comprehensive evaluation; improved CRITIC; fuzzy membership

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