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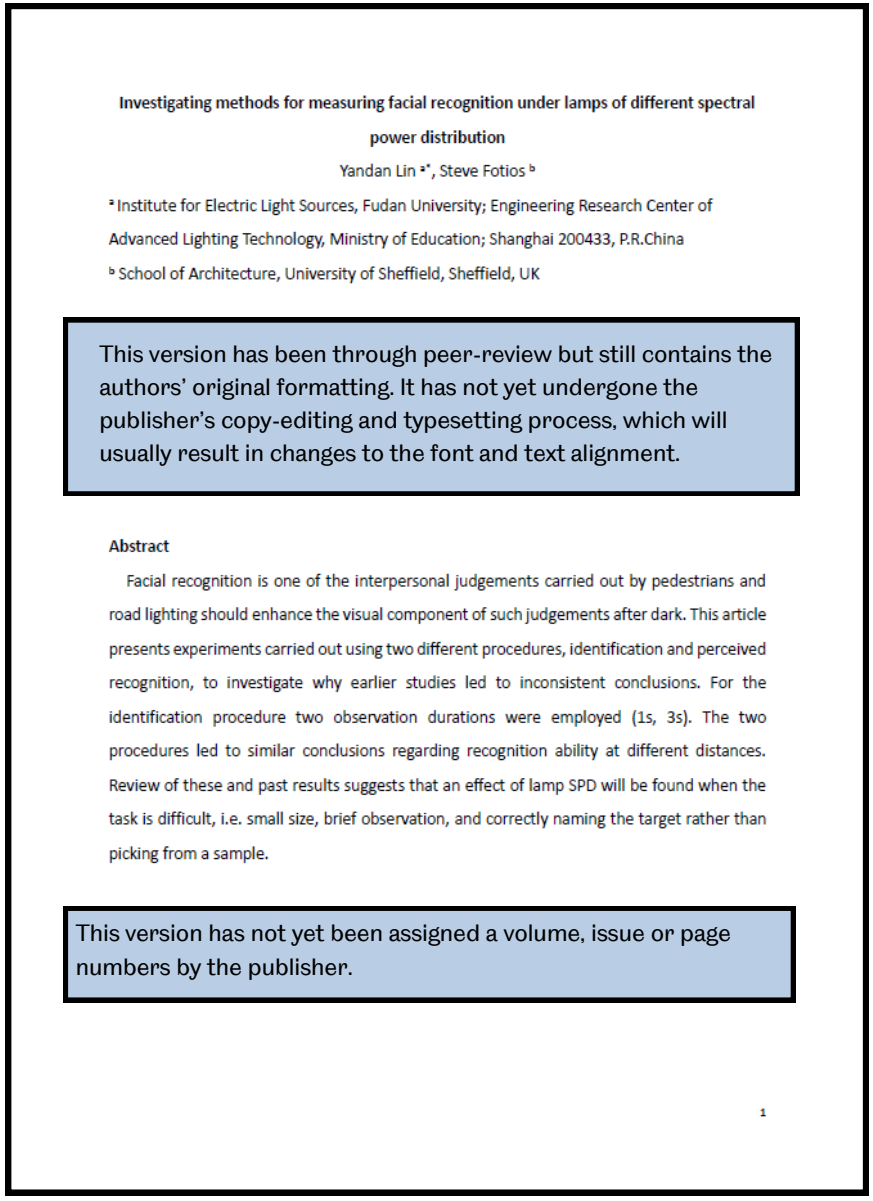

Investigating methods for measuring facial recognition under lamps of different spectral power distribution

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Abstract

Facial recognition is one of the interpersonal judgements carried out by pedestrians and road lighting should enhance the visual component of such judgements after dark. This article presents experiments carried out using two different procedures, identification and perceived recognition, to investigate why earlier studies led to inconsistent conclusions. For the identification procedure two observation durations were employed (1s, 3s). The two procedures led to similar conclusions regarding recognition ability at different distances. Review of these and past results suggests that an effect of lamp SPD will be found when the task is difficult, i.e. small size, brief observation, and correctly naming the target rather than picking from a sample.

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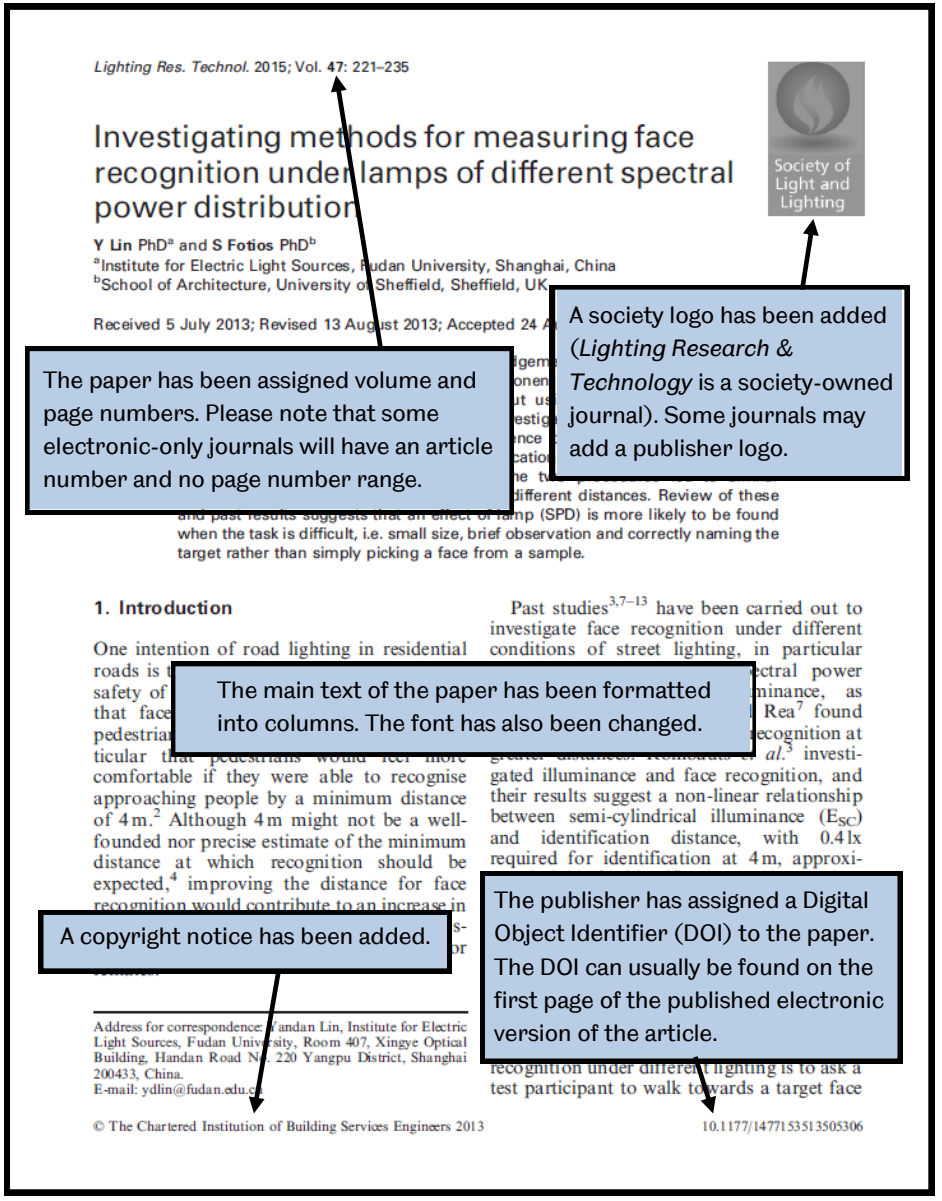

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different distances. Review of these and past results suggests that an effect of lamp (SPD) is more likely to be found when the task is difficult, i.e. small size, brief observation and correctly naming the target rather than simply picking a face from a sample.

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1. Introduction

One intention of road lighting in residential roads is t… safety of … that face… pedestrian… ticular that pedestrians would feel more comfortable if they were able to recognise approaching people by a minimum distance of 4 m.[2] Although 4 m might not be a well-founded nor precise estimate of the minimum distance at which recognition should be expected,[4] improving the distance for face recognition would contribute to an increase in …

Past studies[3,7–13] have been carried out to investigate face recognition under different conditions of street lighting, in particular …ctral power …minance, as Rea[7] found …ecognition at … *al.*[3] investigated illuminance and face recognition, and their results suggest a non-linear relationship between semi-cylindrical illuminance (E_{SC}) and identification distance, with 0.4 lx required for identification at 4 m, approxi-

… recognition under different lighting is to ask a test participant to walk towards a target face

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