important and the surface under this wire is low charged as shown in Fig.7

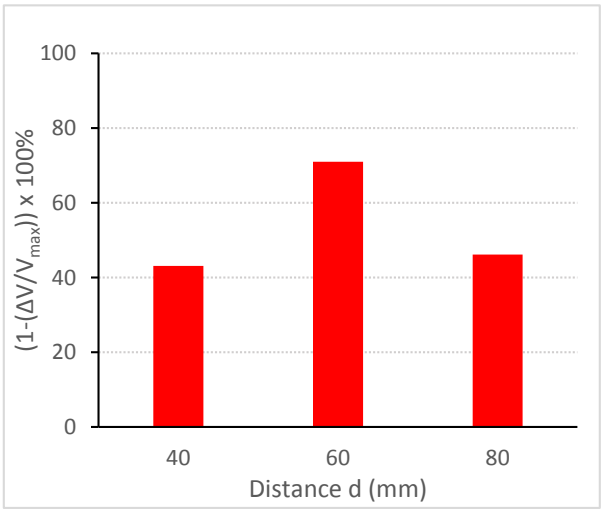

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Fig. 7. Effect of the distance between wires on uniformity ratios for corona charging of PP films by three-wire electrodes (h = 30 mm; U = 15 kV; t = 1 s).

IV. Conclusion

In this paper, the effect of the distance between wires on of the corona discharge generated by two-wire and three-wire electrode configurations and the uniformity of the charge deposited on the PP film surface has been investigated. The obtained results indicate that the current density and surface electric potential profiles exhibit a peak beneath each wire and a trough at the midpoint between two adjacent wires. Furthermore, it was concluded that the number of wires and the wire-to-wire spacing affect the distribution of the corona current density and the surface electric potential on corona-charged PP films. It is worth noticing that the distance between wires should be large enough to avoid the shielding effect which diminish the level of the corona charging. The uniformity of the electric charge deposited on the surface of PP film samples exposed to corona discharge is significantly influenced by the distance between wires. For the two-wire electrode, the best uniformity is achieved with a shorter distance d. In the case of three-wire electrode, the optimal circumstances for optimizing the uniformity and amount of corona charging, it is crucial to select the appropriate spacing between wires for each electrode arrangement.

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