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Title: Improving the Low Temperature Dyeability of Polyethylene Terephthalate Fabric with Dispersive Dyes by Atmospheric Pressure Plasma Discharge

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Highlights

- Atmospheric pressure glow-like plasma with fine and uniform filament discharge has been successfully applied to the low temperature dyeing (95 °C) of PET fabric.
- Simultaneously the dye uptake was increased as twice as much and the color strength rate was increased by about 20% for less than 3 min plasma treated PET
- Dyeing mechanism research showed the significance of surface roughing and functional group introduction by this kind of discharge.
- Results highlight a novel environmentally friendly dyeing process for one of the largest commodity in polymer fabric.

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