



Diffusion-limited aggregation-like patterns produced by atmospheric plasma jet

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We report the observations of diffusion-limited aggregation-like patterns by an atmospheric plasma jet. The plasma jet is shown being able to remove the copper thin film from substrate. During the thin film removal process, the fractal patterns on the substrate are found. The fractal patterns are found various structures like dense branching and tree-like patterns and found different growing sequences like fluctuating, oscillatory, and zigzag traces. The surface morphology of the copper thin film reveals that the footprints of discharge are not as random as expected. We propose a diffusion-limited aggregation model with few extra requirements by analogy with the experimental results, and thereby present the beauty of nature.

References

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