

عنوان مقاله:

CUBIC B-SPLINE APPROXIMATION METHOD FOR 3D SIMULATION OF ELECTROSPUN NANOFIBER JET

محل انتشار:

سومین همایش ملی تکنولوژی های نوین در شیمی، پتروشیمی و نانو ایران (سال: 1395)

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خلاصه مقاله:

To optimize electrospinning process, the B-spline collocation methods and a new ODEs solver based on B-spline quasi-interpolation are developed. The problem consists of nonlinear ordinary differential equations. To solve the system of ODE, a 3D simulation obtained by applying quartic B-spline collocation method. To achieve this, the Reneker's model (i.e. bead-spring model) applied and the governing equations were numerically simulated by new ODEs solver without using perturbation equations in x and y directions. Most likely, this technique can represent the results the random perturbation. The results show that it could be possible to build mathematically a real-time simulation

کلمات کلیدی:

B-Spline approximation method, Electrospinning process, Reneker's model, Simulation improvement

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