

NUMERICAL SIMULATION OF TURBULENT MIXING WITH UNIFORM COMPRESSION

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Abstracts

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A problem about the turbulent mixing evolution within a uniformly compressing gas area is considered in the paper. The analytical solutions of the problem are obtained from the $k - \varepsilon$ equations of the turbulence model for spherical, cylindrical and planar geometries. The problem 3D direct numerical simulation was performed under the TREK technique and the 2D direct numerical simulation was performed using the $k - \varepsilon$ turbulence model under the EGAK technique. The numerical results were compared both mutually and with analytical solutions; all the data agree well with each other.