

Solving the turbulent (round) jet mystery by scale relativity (SR)

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Main results

- New more exact RANS solutions for v and p
- By using SR : new tool to tackle hydro problems : by going from NS (NL) to Schrodinger (L) eq. ; deriving PDF(v)...
 - no closure problem for stress tensor
- **Explanations** : of the jet angle α
- of the intensity ratio $R^2 = \sigma_u^2 / \sigma_v^2$, $R = (2 \alpha)^{-1/3}$
- N.A : $R = 1.35$ /fit with observations
 - prediction of the correlation velocity coefficient :
 - **$\rho = 2\alpha$** , AN: $\rho = 0.4$ as is universally observed for free shear flows
 - Improved profile for $p(y=r/x)$ with suitable predicted amplitude
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