Corrections and Explanations for Luan Hoang's publications

A. The Navier–Stokes Equations

1. Paper [5], formula (1.13), remove the last "$= 0$" (for B_j).
2. Paper [8]: Sentence after (4.58), insert "u_{N+1}" after"since", and add the terms "multiplied by $e^{-\mu_{N+1}t}$" after "G_{μ,σ_0}-valued polynomial" .

   Explanations: Summing up (4.58) is permitted by simply working with the coefficients of the polynomials.
3. Paper [9]:
   (a) After (3.15), in the formula of ξ_1, remove $e^{\mu_1\tau}$ in the integral.
   (b) Before (3.33), in the formula of ξ_{N+1}, remove $e^{\mu_{N+1}\tau}$ in the integral.

B. Porous Media Equations

1. Paper [1], formula (37) and line 1 of the next page: replace $(K(\xi)\xi^n)$ with derivative $(K(\xi)\xi^n)'$
2. Paper [6], Lemma 2.3, inequality (2.24) and first inequality of part (ii), replace "$\geq a$" with "$\geq (1-a)$"
3. Paper [7]:
   (a) Page 279, line 3, insert "$+2s$" in front of the integral.
   (b) Page 330, the line above (A.10): $\widetilde{A}$ should be $(A_1 D^{\mu_1} + A_2 D^{\mu_2})/D^{\mu_1}$.
4. Paper [4]:
   (a) Lemma A.1: Because $\prod \gamma_j$ is convergent and by the Cauchy criterion, the sequence $(G_j)_{j=1}^{\infty}$ is bounded. Hence number G is finite.
5. Paper [3]:
   (a) Line 3 from the bottom of page 3632, line 3 of page 3633, and line 2 of page 3635: The constant C should be $\bar{C}$.
   (b) Page 3633, inequality (4.6): the last two terms should be multiplied by 2.
   (c) Page 3634, after (4.11), value of ε should be $(\alpha-\lambda)d_3/32$.

C. Ordinary Differential Equations

1. Paper [2]:

   (a) Page 1195: In (3.5), $\varepsilon_0 = C_0/2$.

References

[1] E. Aulisa, L. Bloshanskaya, L. Hoang, and A. Ibragimov. Analysis of generalized Forchheimer flows of compressible fluids in porous media. *J. Math. Phys.*, 50(10):103102, 44 pp, 2009.

[2] D. Cao and L. Hoang. Asymptotic expansions with exponential, power, and logarithmic functions for non-autonomous nonlinear differential equations. *J. Evol. Equ.*, 21(2):1179–1225, 2021.

[3] E. Celik, L. Hoang, and T. Kieu. Doubly nonlinear parabolic equations for a general class of Forchheimer gas flows in porous media. *Nonlinearity*, 31(8):3617–3650, 2018.

[4] E. Celik, L. Hoang, and T. Kieu. Generalized Forchheimer flows of isentropic gases. *J. Math. Fluid Mech.*, 20(1):83–115, 2018.

[5] C. Foias, L. Hoang, and J.-C. Saut. Asymptotic integration of Navier-Stokes equations with potential forces. II. An explicit Poincaré-Dulac normal form. *J. Funct. Anal.*, 260(10):3007–3035, 2011.

[6] L. Hoang and A. Ibragimov. Structural stability of generalized Forchheimer equations for compressible fluids in porous media. *Nonlinearity*, 24(1):1–41, 2011.

[7] L. T. Hoang, T. T. Kieu, and T. V. Phan. Properties of generalized Forchheimer flows in porous media. *J. Math. Sci.*, 202(2):259–332, 2014.

[8] L. T. Hoang and V. R. Martinez. Asymptotic expansion for solutions of the Navier-Stokes equations with non-potential body forces. *J. Math. Anal. Appl.*, 462(1):84–113, 2018.

[9] L. T. Hoang and E. S. Titi. Asymptotic expansions in time for rotating incompressible viscous fluids. *Ann. Inst. H. Poincaré Anal. Non Linéaire*, 38(1):109–137, 2021.