Corrections to YJMAA 15436

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November 11, 2010

Dear editors,

Thank you very much for this author proof-reading, and the followings needs absolute corrections (the red ones are right):

1. On Page 2, Line 48,

   Gagliardo-Nirenberg inequality

   should be deleted, so as to be more consistent with previous paragraphs.

2. On Page 3, Line 11,

   $$\beta \geq \frac{5}{3} \text{ should be replaced by } \beta > 3.$$

3. On page 3, Line 20,

   "taking inner product" should be replaced by "taking the inner product".

4. On Page 3, Line 39,

   $$C\int_{\mathbb{R}^3} |u\cdot\nabla u|^2\,dx \text{ should be replaced by } \int_{\mathbb{R}^3} |u|^2\,|\nabla u|^2 dx.$$

5. On Page 4, Line 22, the whole equation

   $$\int_{\mathbb{R}^3} |u|^2\,dx + \int_{\mathbb{R}^3} |u|^{\beta+1}\,dx \leq C_1\left(\int_{\mathbb{R}^3} |u_0|^2\,dx + \int_{\mathbb{R}^3} |u_0|^{\beta+1}\,dx\right)e^{CT}$$

   should be replaced by

   $$\int_{\mathbb{R}^3} |\nabla u|^2\,dx + \int_{\mathbb{R}^3} |u|^{\beta+1}\,dx \leq C_1\left(\int_{\mathbb{R}^3} |\nabla u_0|^2\,dx + \int_{\mathbb{R}^3} |u_0|^{\beta+1}\,dx\right)e^{CT}.$$

6. On Page 4, Line 32, the whole equation

$$\int_{\mathbb{R}^3} \left(u_t - \mu\Delta u + u \cdot \nabla u + \alpha |u|^{\beta-1}\right) \phi dx = 0$$

should be replaced by

$$\int_{\mathbb{R}^3} \left(u_t - \mu\Delta u + u \cdot \nabla u + \alpha |u|^{\beta-1} u\right) \phi dx = 0.$$

7. On Page 4, Line 37,

$$\int_{\mathbb{R}^3} \left(\bar{u}_t - \mu\Delta \bar{u} + \bar{u} \cdot \nabla \bar{u} + \alpha |\bar{u}|^{\beta-1}\right) \phi dx = 0$$

should be replaced by

$$\int_{\mathbb{R}^3} \left(\bar{u}_t - \mu\Delta \bar{u} + \bar{u} \cdot \nabla \bar{u} + \alpha |\bar{u}|^{\beta-1} \bar{u}\right) \phi dx = 0.$$

8. On Page 4, Line 51,

$$\nabla \bar{u} \in L^2(0, T; L^2(\mathbb{R}^3))$$

should be replaced by

$$\nabla \bar{u} \in L^\infty(0, T; L^2(\mathbb{R}^3)).$$

9. On Page 5, Line 20, the whole equation

$$I_2 \leq C \|u - \bar{u}\|^2 \left(\|\Delta u\|_2^{\frac{\beta-1}{2}} + \|\Delta \bar{u}\|_2^{\frac{\beta-1}{2}}\right)$$

should be replaced by

$$I_2 \leq C \|u - \bar{u}\|_2^2 \left(\|\Delta u\|_2^{\frac{\beta-1}{2}} + \|\Delta \bar{u}\|_2^{\frac{\beta-1}{2}}\right).$$

Thank you very much for your wonderful typesetting.

With best wishes.

Sincerely from Zujin Zhang