CORRIGENDUM to

“A Liouville-type theorem for the 3-dimensional parabolic Gross-Pitaevskii and related systems”

In the first paragraph of the proof of Theorem 2.1, it is implicitly assumed that \( r \geq 1 \). Indeed, this is used in the inequality \( \partial_t u_i - \Delta u_i \leq C u_i \) at L1 of P1576.

However, the proof of Theorem 2.1 is valid in the general case \( r > 0 \). Indeed, Lemma 4.2 is actually true for any nonnegative solution (and not just for positive solutions). Therefore, the argument in the second paragraph of the proof of Theorem 2.1 is sufficient to conclude.

The fact that Lemma 4.2 is true for any nonnegative solution \( U = (u_i) \) of (1) in \( B_1 \times (-1, 1) \) can be checked by an approximation argument. Namely, for any fixed \( \theta \in (0, 1) \), setting \( u_{i, \theta} = u_i + \theta \), we see that \( U_{\theta} = (u_{i, \theta}) \) is a positive solution to the perturbed system

\[
\partial_t u_{i, \theta} - \Delta u_{i, \theta} = \sum_{j=1}^{m} \beta_{ij} u_{i, \theta}^{r} u_{j, \theta}^{r+1} + f_{i, \theta}, \quad i = 1, \ldots, m,
\]

where

\[
f_{i, \theta} = \sum_{j=1}^{m} \beta_{ij} [u_{i, \theta}^{r} u_{j}^{r+1} - u_{i}^{r} u_{j, \theta}^{r+1}]
\]

and that \( f_{i, \theta} \) converges to zero in \( C_{loc}(B_1 \times (-1, 1)) \) as \( \theta \to 0^+ \).

Applying the arguments of the proof of Lemma 4.1 to \( U_{\theta} \) instead of \( U \), we obtain formula (15) for \( U_{\theta} \) with, on the RHS, an additional contribution \( A_{\theta} \) coming from the term \( f_{i, \theta} \), and \( A_{\theta} \) is bounded by half the LHS of (15) plus a term which goes to 0 as \( \theta \to 0 \). The proof of Lemma 4.2 is then unchanged and estimate (26) for \( U \) follows by letting \( \theta \to 0 \).