Erratum: Quantum Criticality in Quasi-Two-Dimensional Itinerant Antiferromagnets [Phys. Rev. Lett. **115**, 186405 (2015)]

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Equations (6) of the Letter has an algebraic error. The correct phase factor should have $(i\mathbf{Q}_0 \cdot \mathbf{R}_i)$ in the exponent and not $(i\mathbf{Q} \cdot \mathbf{R}_i)$. This makes the rest of the analysis for incommensurate planar antiferromagnetic correlations invalid. The results for the incommensurate uniaxial or Ising antiferromagnetic correlations in the Letter are correct and valid.

For the two-dimensional incommensurate planar antiferromagnet at wave vector $\mathbf{Q}$, the fluctuating order parameter at a lattice site i may be written as

$$M(\cos \theta_i \hat{\mathbf{Q}}_{\parallel} + \sin \theta_i \hat{\mathbf{Q}}_{\perp}) \cos(\mathbf{Q} \cdot \mathbf{R}_i + \phi_i).$$

Here M is the (constant) magnitude, θ_i is the direction of the magnetization vector at site i in the plane, measured with respect to, for example, parallel and perpendicular to $\mathbf{Q}$. The magnetization vector in the plane has $U(1)$ symmetry. ϕ_i is the phase of the incommensurate wave at site i . ϕ_i also has $U(1)$ symmetry. So the phase transition of the model is described by a $U(1) \times U(1)$ model unlike the $U(1)$ model for incommensurate uniaxial antiferromagnetics, whose local order parameter does not have the θ degree of freedom. Except for the unlikely case of degeneracy of the two resulting $U(1)$ models, the $U(1) \times U(1)$ model is also expected to have quantum transitions of the $U(1)$ class. However, the quantum phase transition(s) of the $U(1) \times U(1)$ model need to be further studied in order to be certain.