Comment on os-2022-5
Anonymous Referee #2

Referee comment on "Analytical solution of the ray equations of Hamilton for Rossby
waves on stationary shear flows" by Vladimir Gnevyshev and Tatyana Belonenko, Ocean

I read this manuscript and doubted my eyes. I felt like I was back in the world half a
century ago. In general, theory is meaningful when it can explain the actual phenomenon
concisely or when it is effective for interpreting observations and experimental data from a
new perspective. This paper is not of that sort. It deals with the behavior of Rossby
waves in a linear shear flow, showing the sameness between the ray theory based on the
simple dispersion relation of Rossby waves considering the shear frequency and the
solution of the Cauchy problem. This problem was calculated almost half a century ago
using a coordinate system that follows the shear flow, and several papers were already
published even with pointing out the limitations of introducing the wave packet, as cited in
the references. Therefore, in modern times, it is just an exercise for college students
studying wave packets and ray theory for Rossby waves in a shear flow.

Unfortunately, this paper is not worth publishing in Ocean Science.