Supporting Information for "Interaction of Cosmic Rays with Magnetic Flux Ropes"

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The following Figures resume the analysis of the charged particles deviation when they travel across a magnetic flux rope. The top panels show the Total number of particles traveling in direction quasi-parallel to the MFR-axis; the middle panels show the relative difference between particles going in positive and negative directions; and the resultant anisotropy are shown in bottom panels.

We analyzed two configuration: MFR and MFRSH, corresponding to a magnetic flux rope alone and a small shock, a sheath region plus the magnetic flux rope.

The number of particles are counted along straight lines crossing the flux rope at two angles, ± 15 degrees and at tho distances, 0.01 and 0.1 ua from the center of the magnetic flux rope. The information of the structure, angle and distance is in the title of each figure and the color code represent the energy of the particles as shown in the right scale of the figures. Finally, the beige and gray shadow areas correspond to the sheath and MFR structures. The wide gray curves represent the scaled sum of all energies.

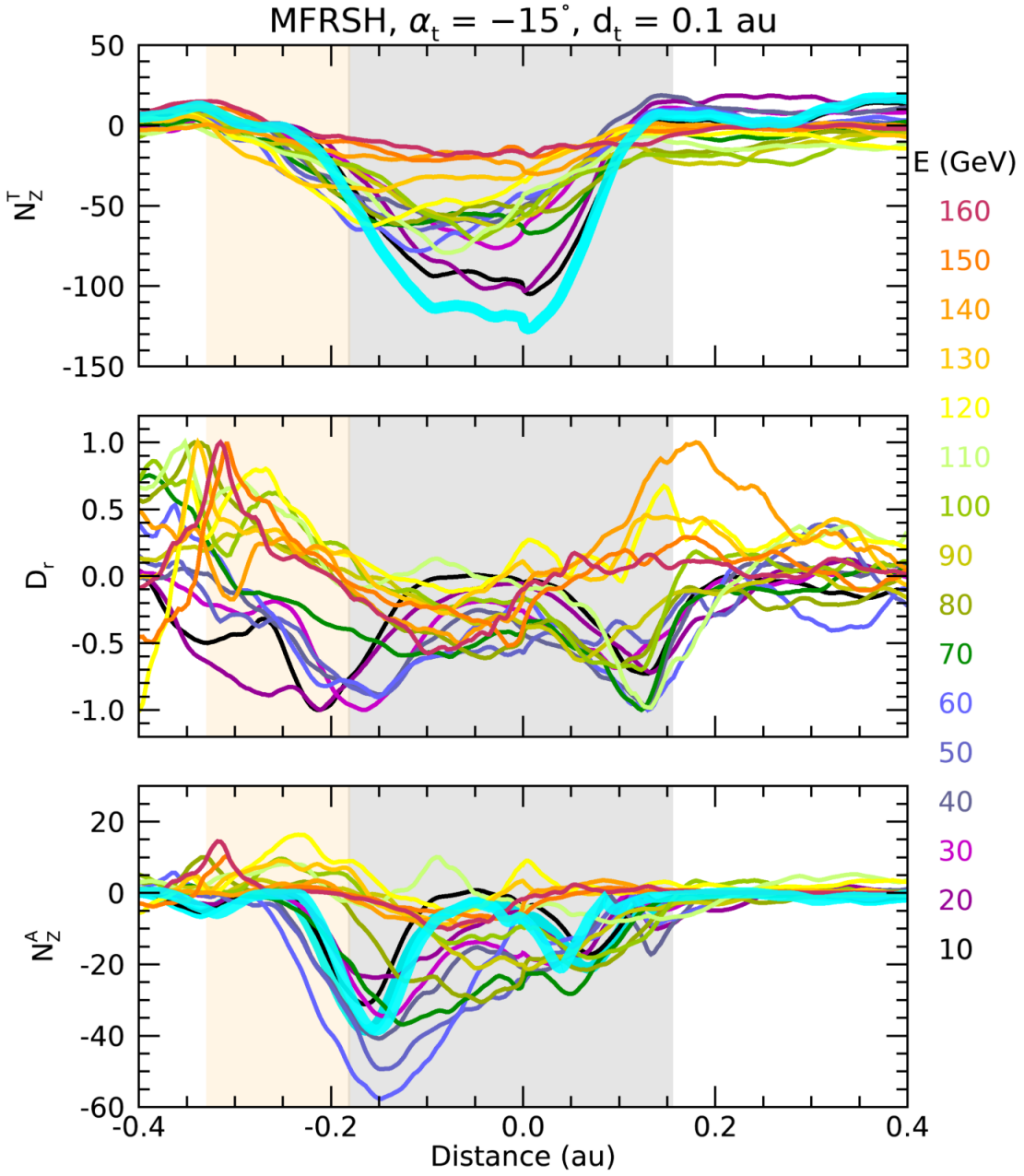

Figure S1. The configuration corresponds to the shock, sheath (beige shadow area) and magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.1 au of distance with an angle of -15 degrees.

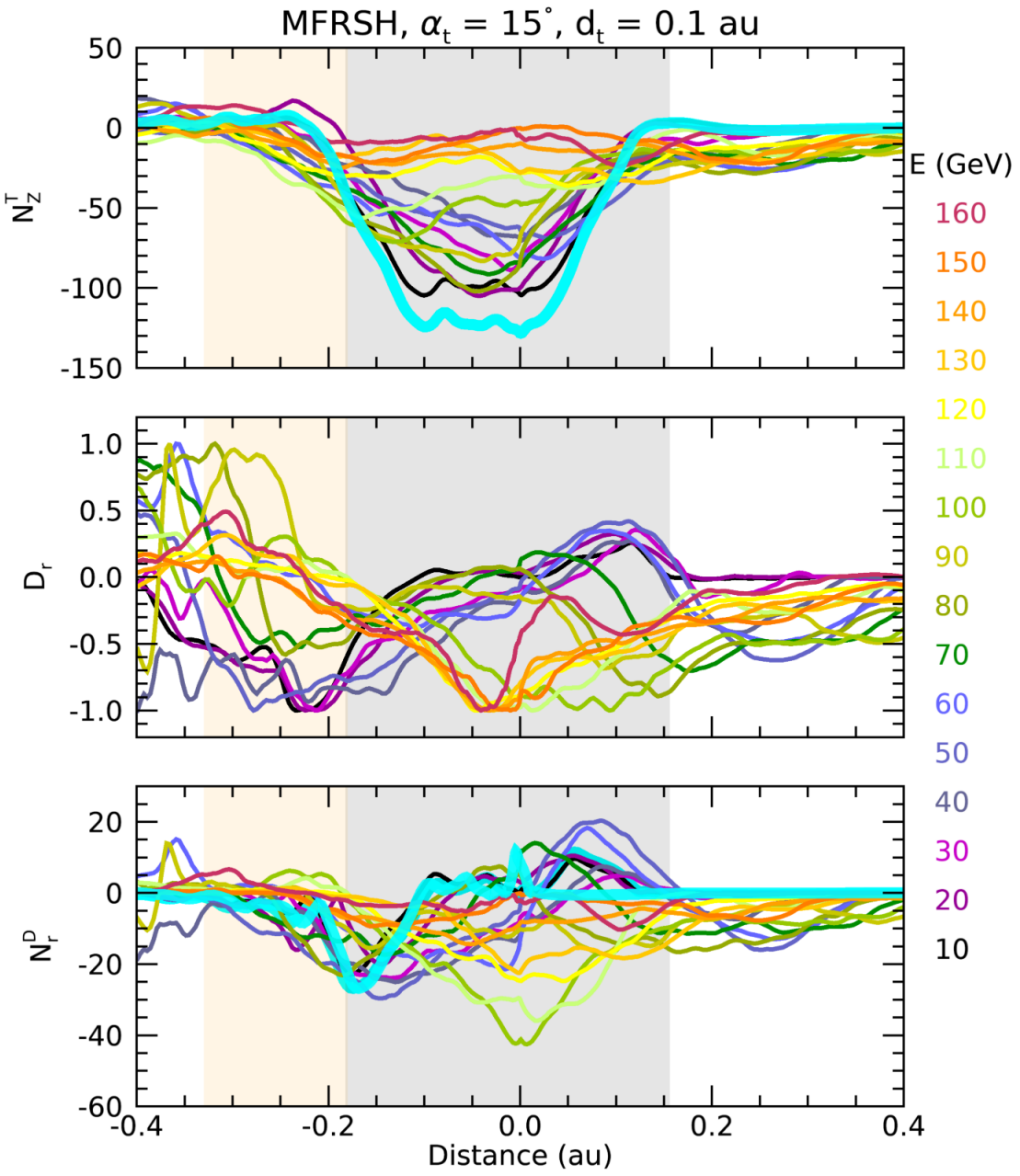

Figure S2. The configuration corresponds to the shock, sheath (beige shadow area) and magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.1 au of distance with an angle of 15 degrees.

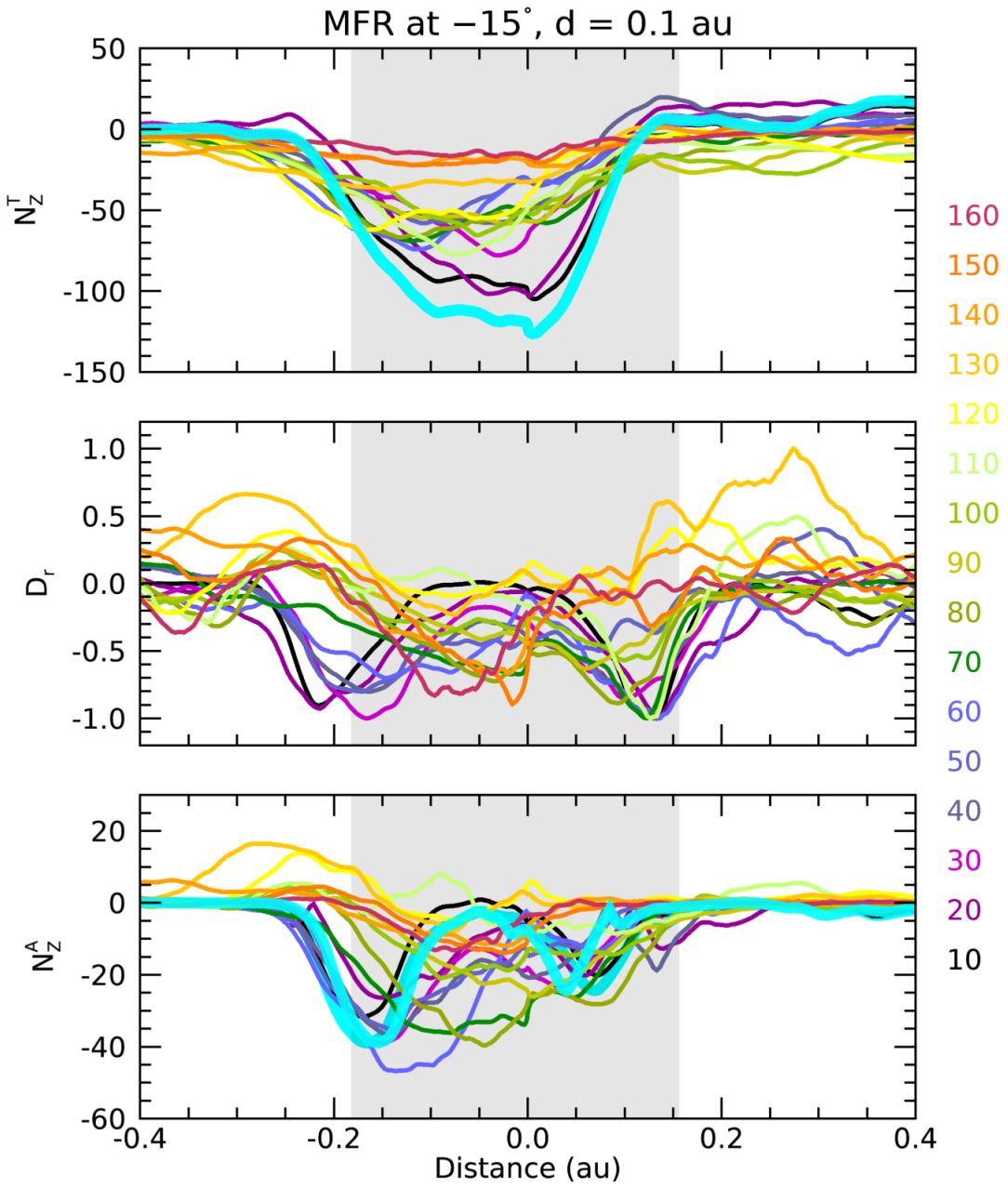

Figure S3. The configuration corresponds to the magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.1 au of distance with an angle of -15 degrees.

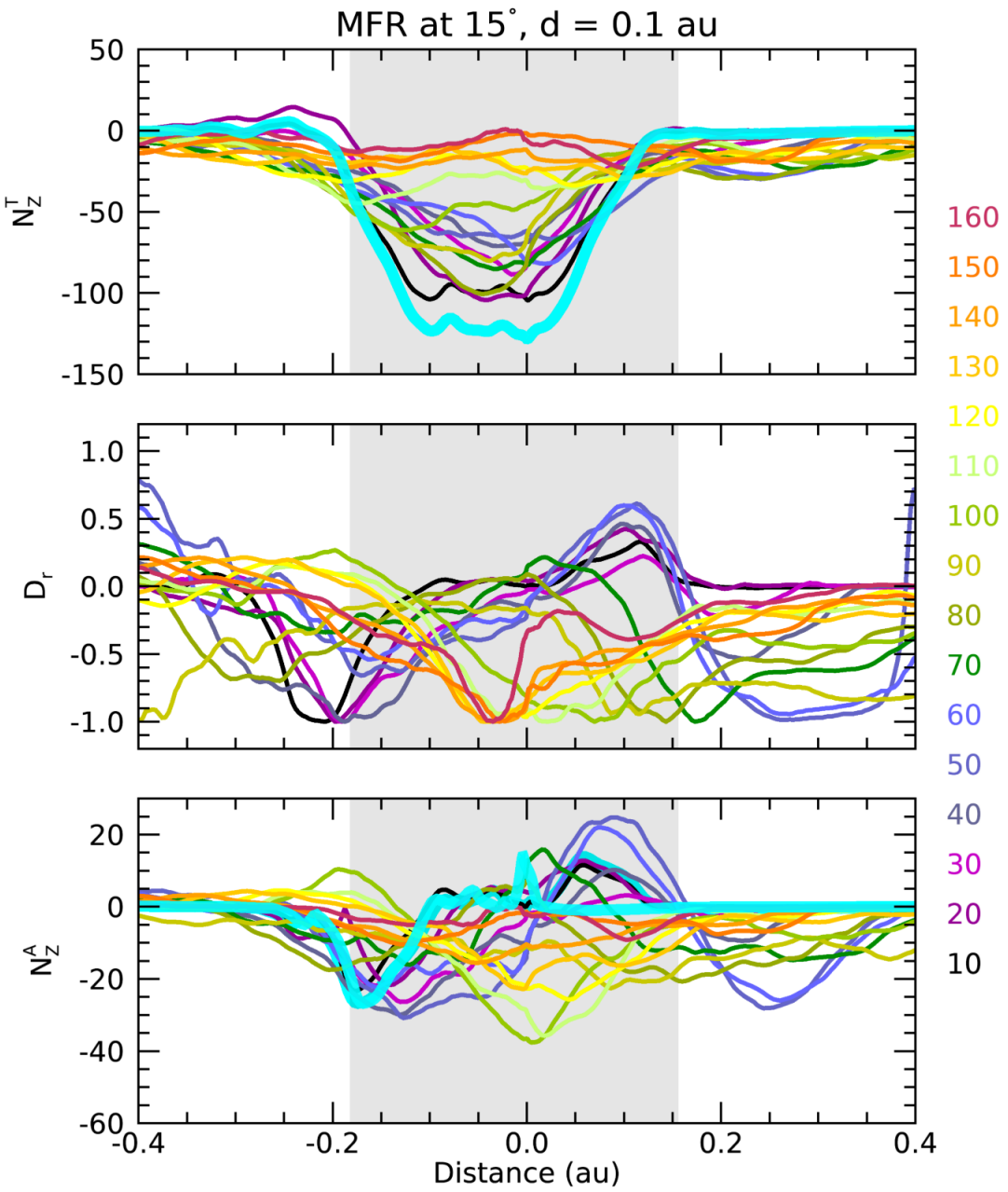

Figure S4. The configuration corresponds to the magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.1 au of distance with an angle of 15 degrees.

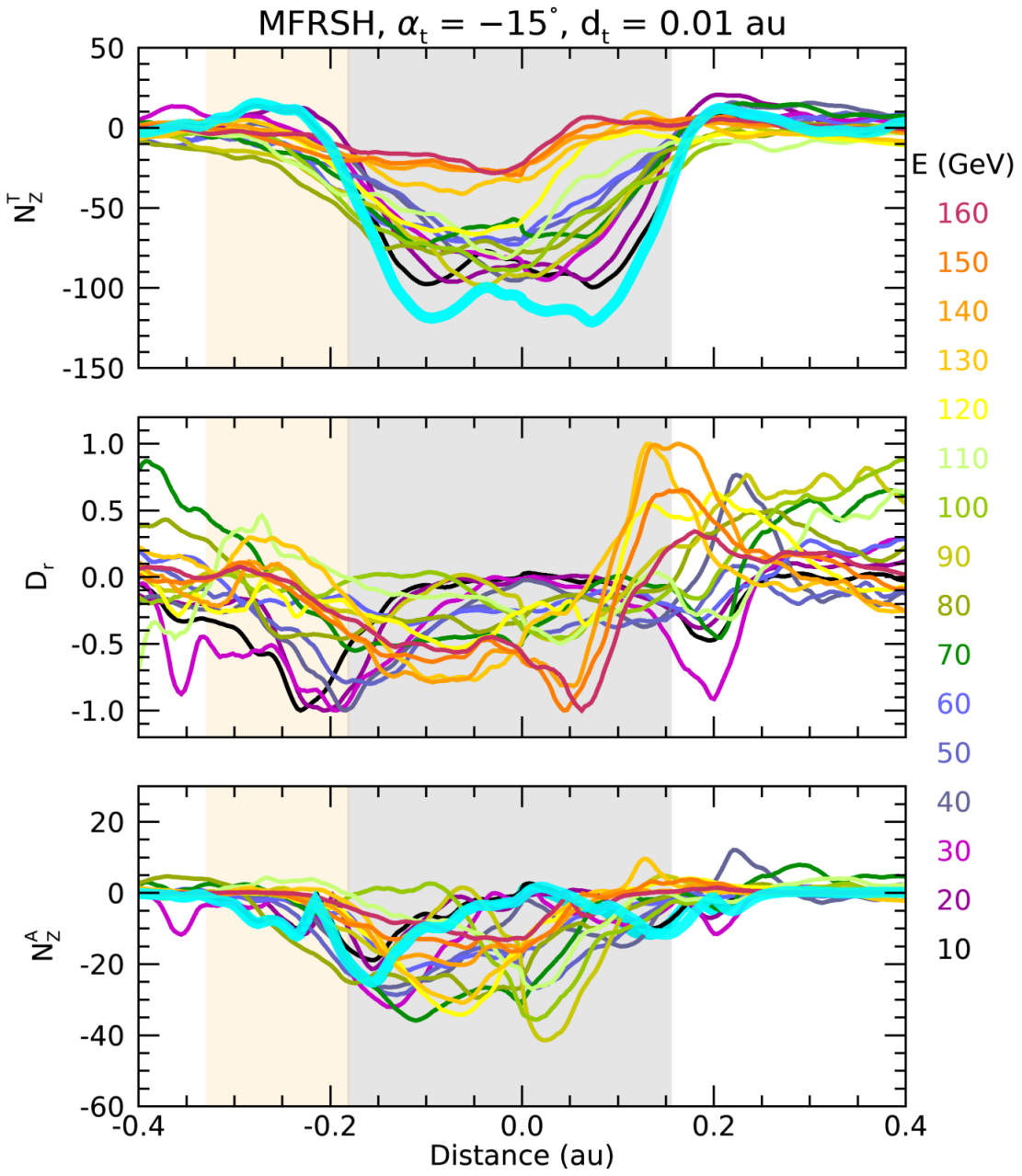

Figure S5. The configuration corresponds to the shock, sheath (beige shadow area) and magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.01 au of distance with an angle of -15 degrees.

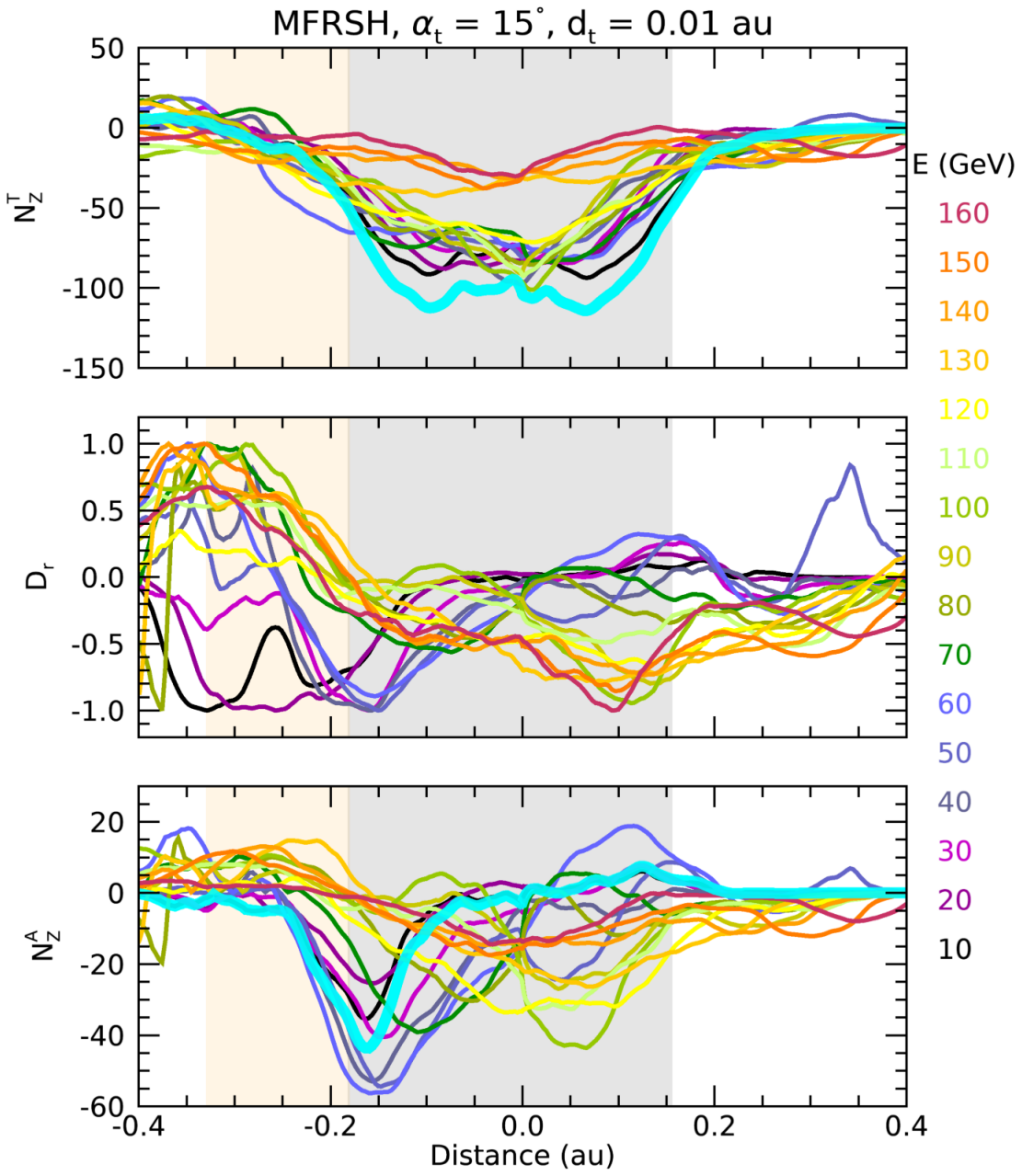

Figure S6. The configuration corresponds to the shock, sheath (beige shadow area) and magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.01 au of distance with an angle of 15 degrees.

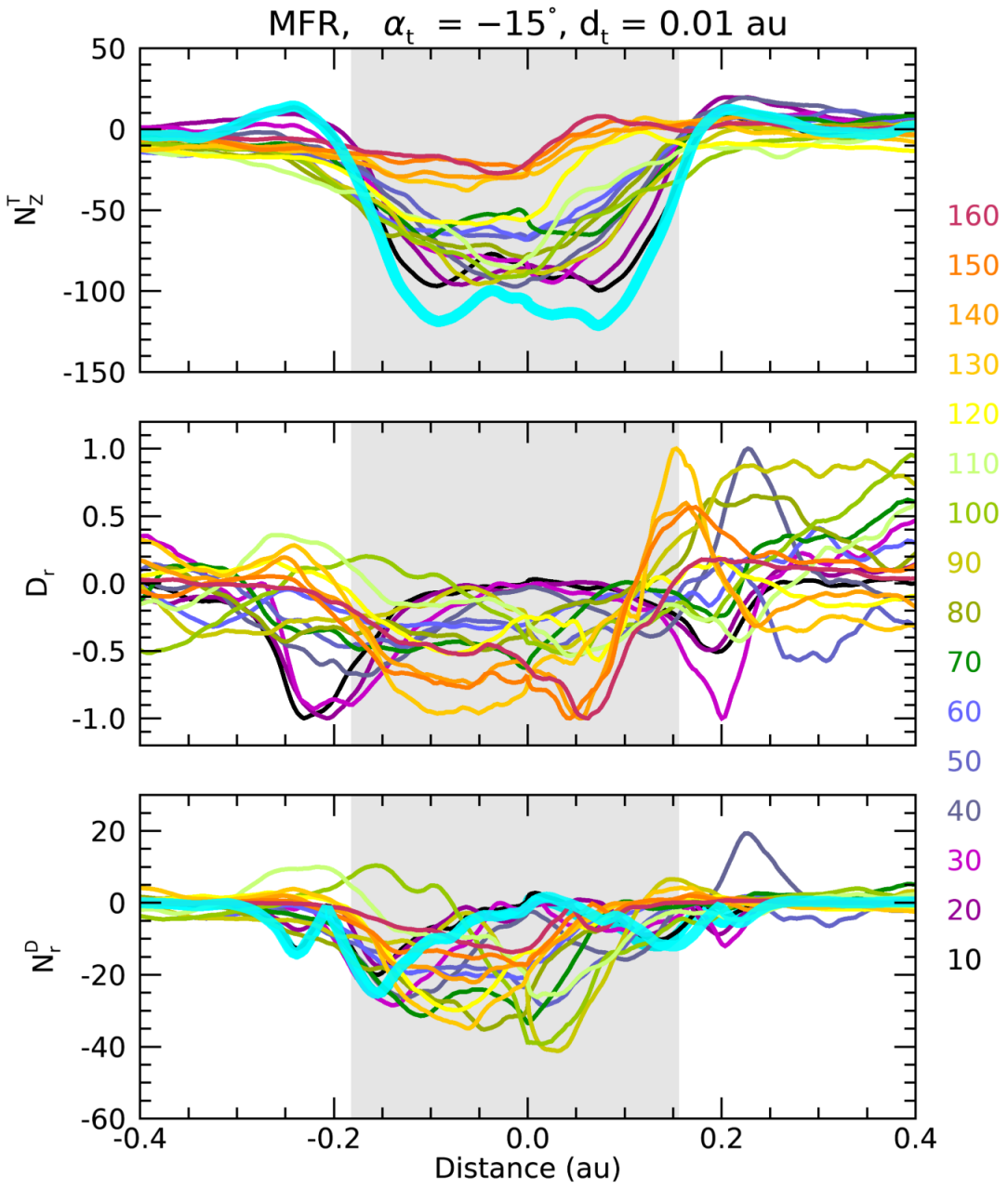

Figure S7. The configuration corresponds to the magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.01 au of distance with an angle of -15 degrees.

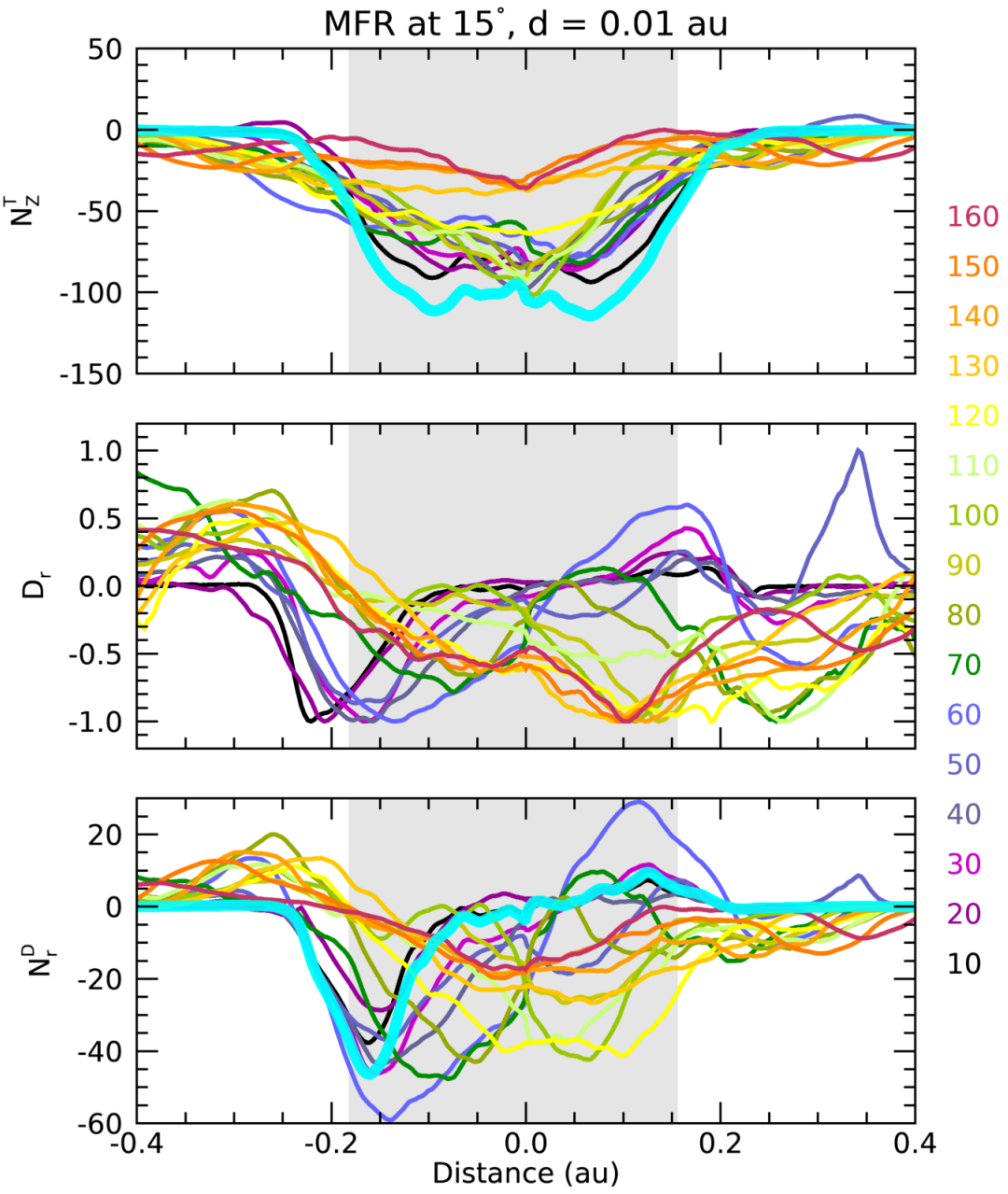

Figure S8. The configuration corresponds to the magnetic flux rope (gray shadow area) case and the counting trajectory crosses the structure at 0.01 au of distance with an angle of 15 degrees.