

# Particle Acceleration by Sound Waves Generated in the Shock Downstream Region

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➤ **What is this contribution about?**

Particle acceleration in shock waves propagating to an inhomogeneous medium.

➤ **Why is it relevant / interesting?**

Because sound waves originated from shock upstream inhomogeneity can additionally accelerate particles in the shock downstream region and modify the particle spectrum produced by DSA.

➤ **What have we done?**

Numerical simulations which solve both diffusion of cosmic rays and shock propagation to an inhomogeneous medium.

➤ **What is the result?**

We confirmed that downstream sound waves do modify the spectrum of cosmic rays.