

太陽大気・太陽風の形成機構

4-3班(原・鈴木 担当)

「導入」部分担当 鈴木 建 (Takeru K. Suzuki)

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What to be clarified

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Energy/Momentum/Mass transfer
in the atmosphere

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- 1 Extract the kinetic energy of the surface convective turbulence

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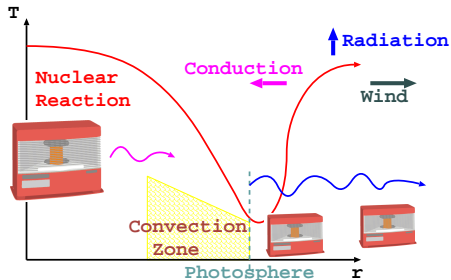
Energy/Momentum/Mass transfer
in the atmosphere

- ① Extract the kinetic energy of the surface convective turbulence
- ② Lift up the energy to upper layers

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Energy/Momentum/Mass transfer
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- 1 Extract the kinetic energy of the surface convective turbulence
- 2 Lift up the energy to upper layers
- 3 The energy dissipates at appropriate locations

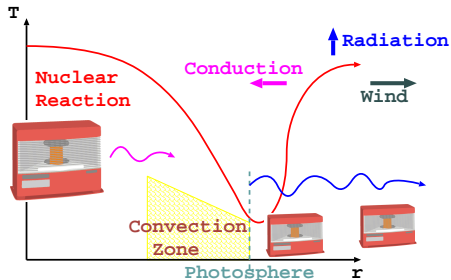


In Situ Heating
in the Corona & Wind

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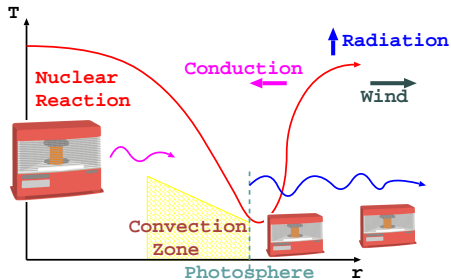
Energy flux

$$= \rho v_{\parallel} \left(v^2/2 + h - GM/r \right) + v_{\parallel} B_{\perp}^2 / 8\pi - B_{\parallel} v_{\perp} B_{\perp} / 4\pi$$

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Poynting flux at different locations.

⇒ Heating

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$$F = \rho v_{\parallel} \left(v^2/2 + h - GM/r \right) \\ + v_{\parallel} B_{\perp}^2 / 8\pi - B_{\parallel} v_{\perp} B_{\perp} / 4\pi$$

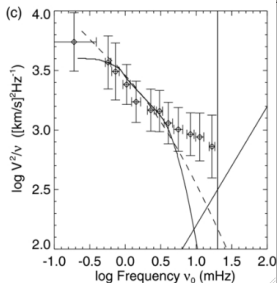
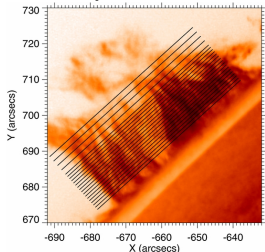
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at different locations
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Example (Hiller+ 2013)



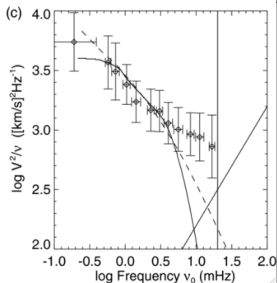
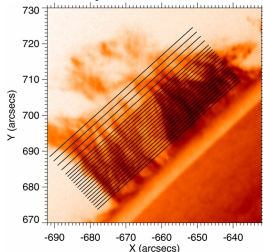
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Need B & v

Example (Hiller+ 2013)



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- 15:05-15:20 北川直優
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