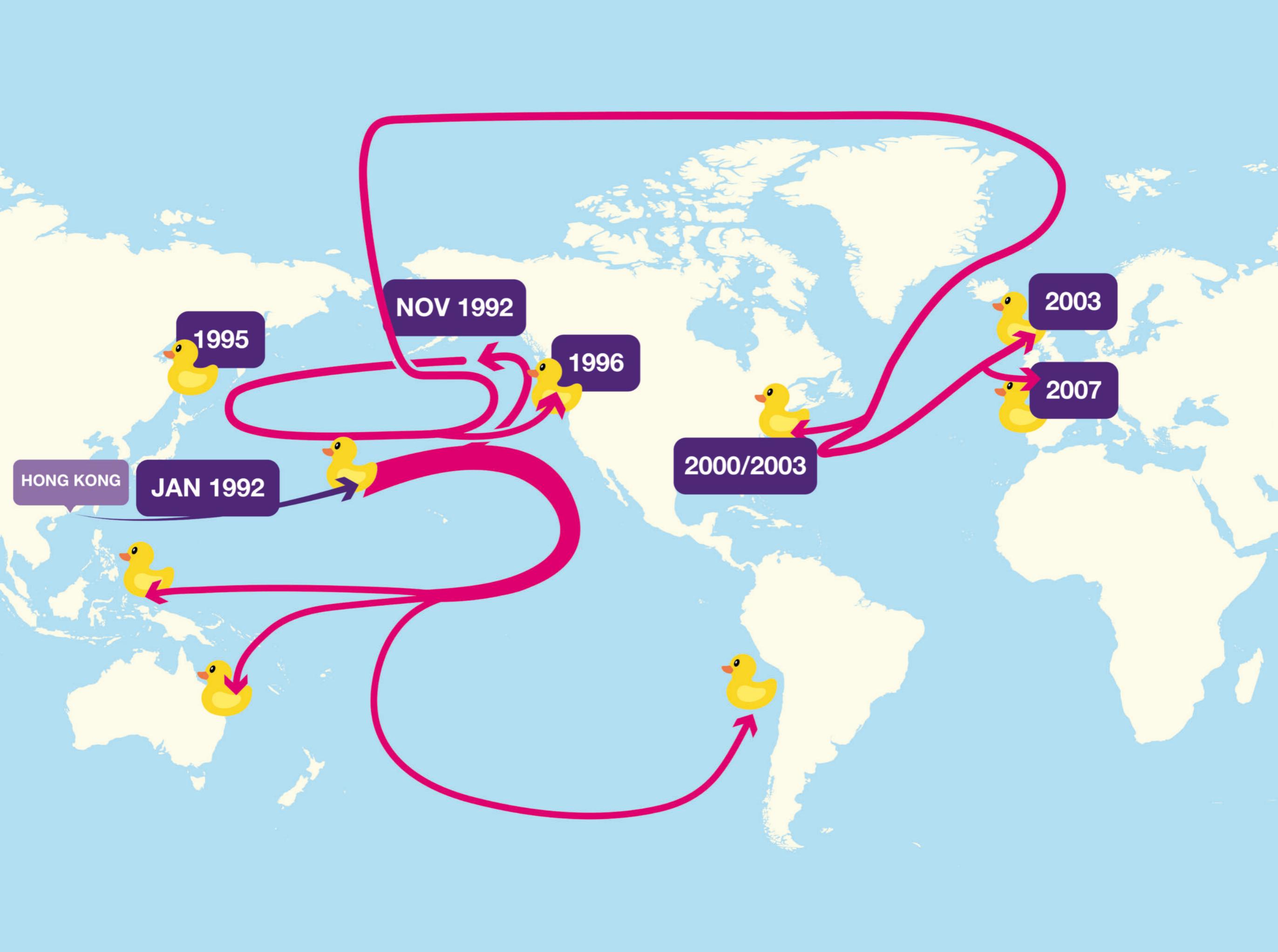


Tracing the flow: Multi-scale gas flows in the ISM





To what extent are the gas flows driven on scales $>$ the ISM structure we are interested in really important for star formation?

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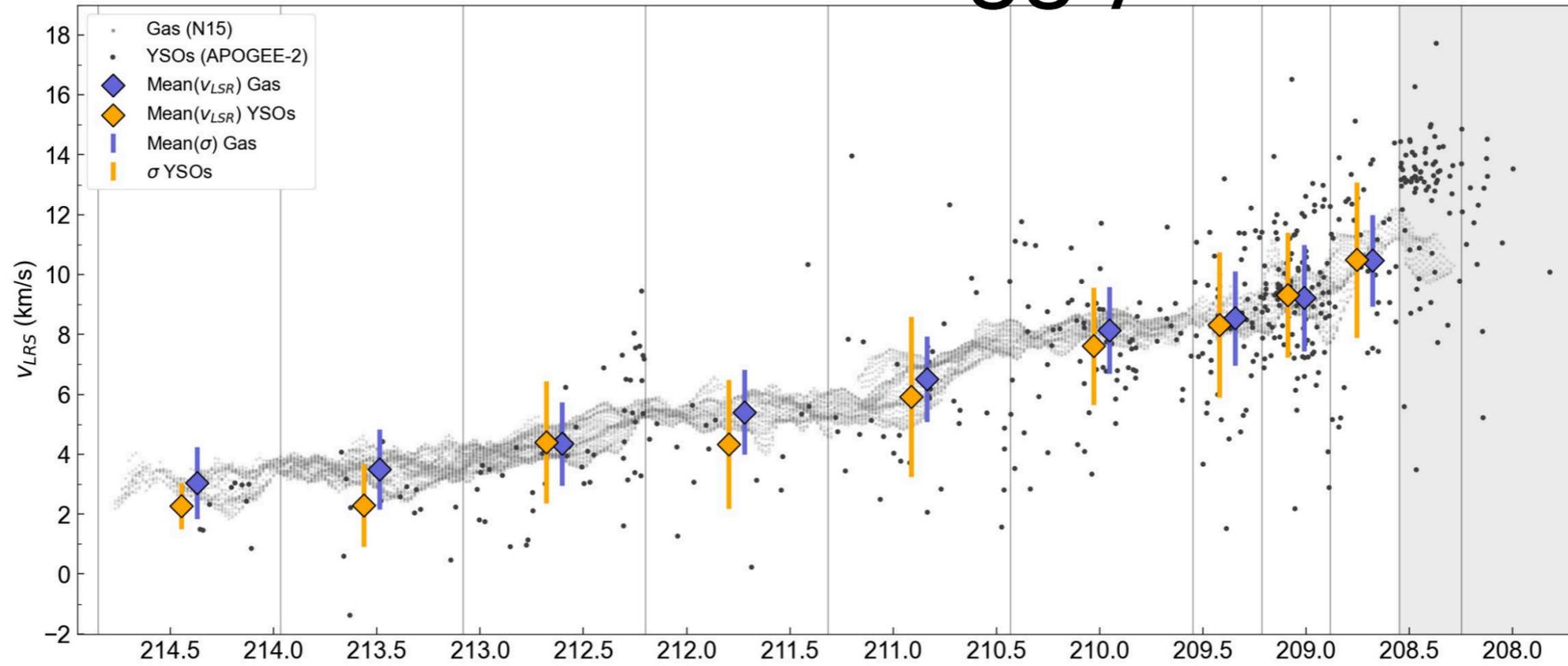
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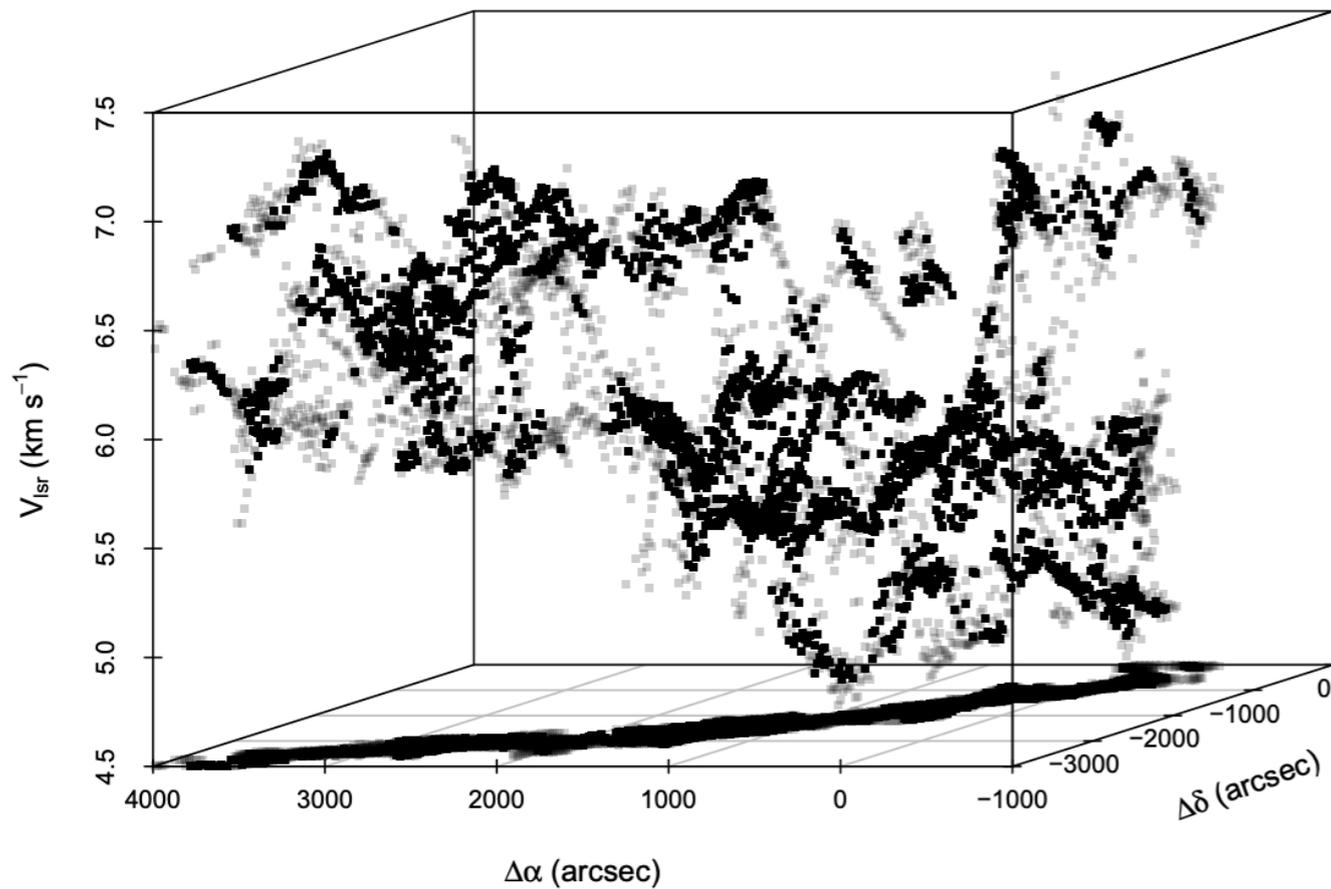
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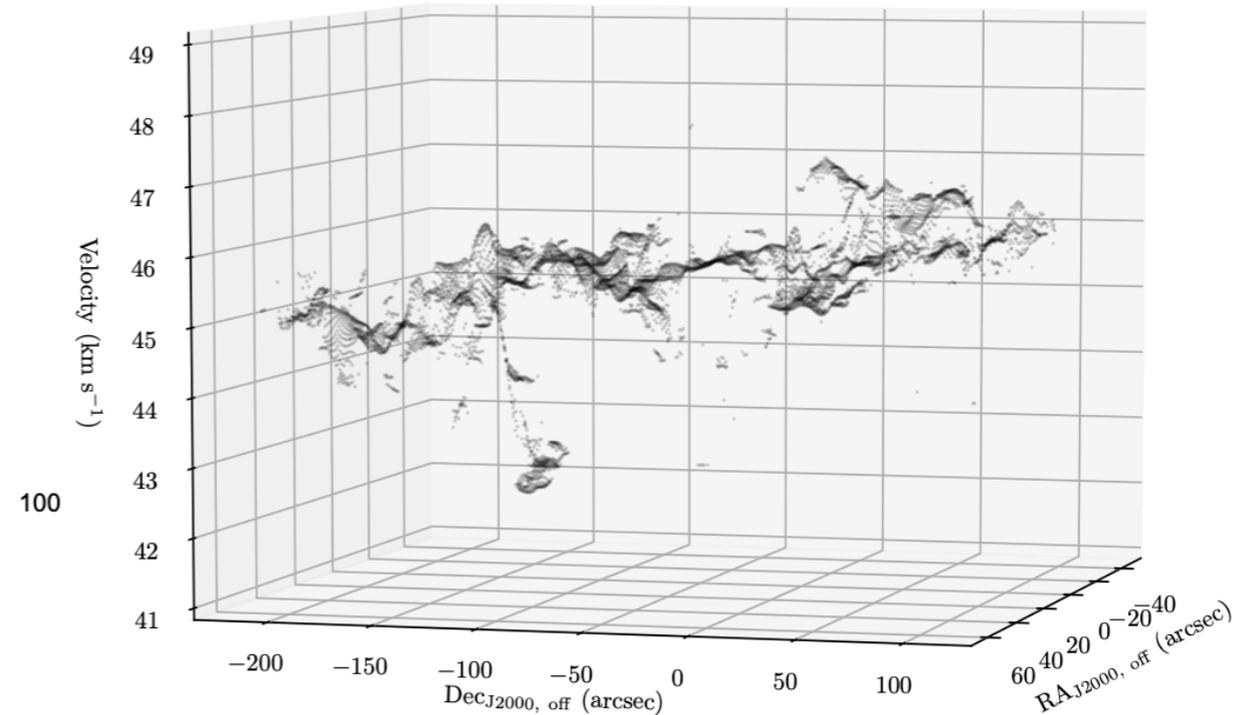
The ISM is wiggly



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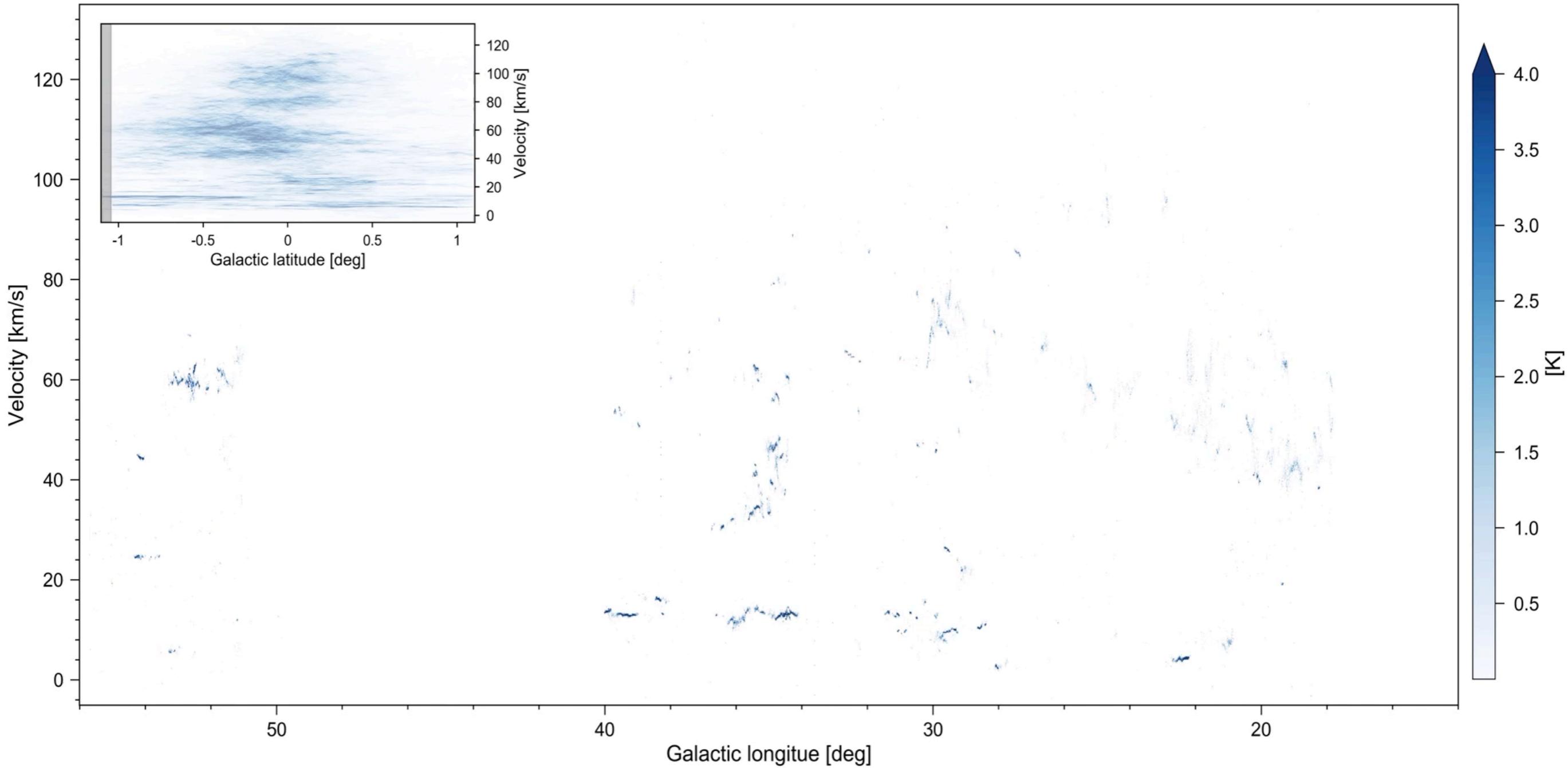


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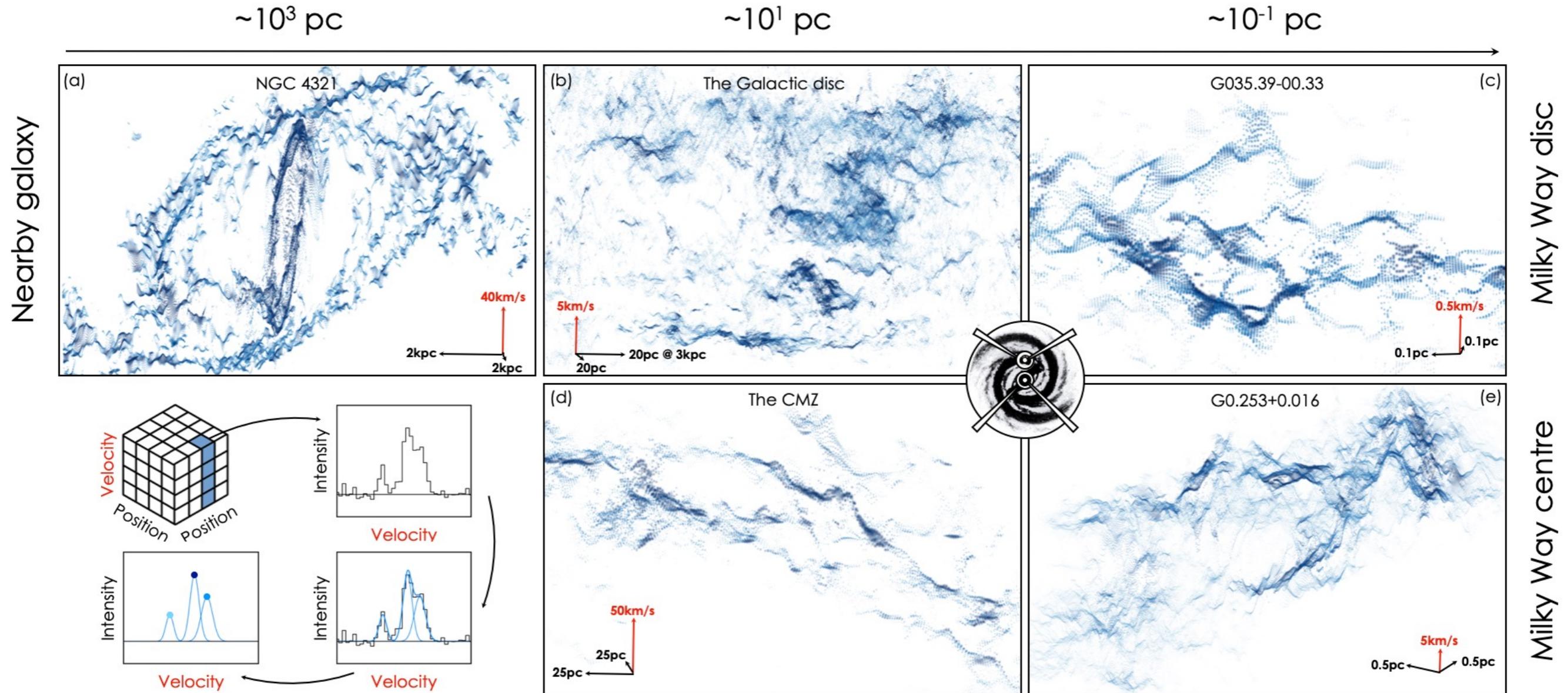


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The ISM is wiggly



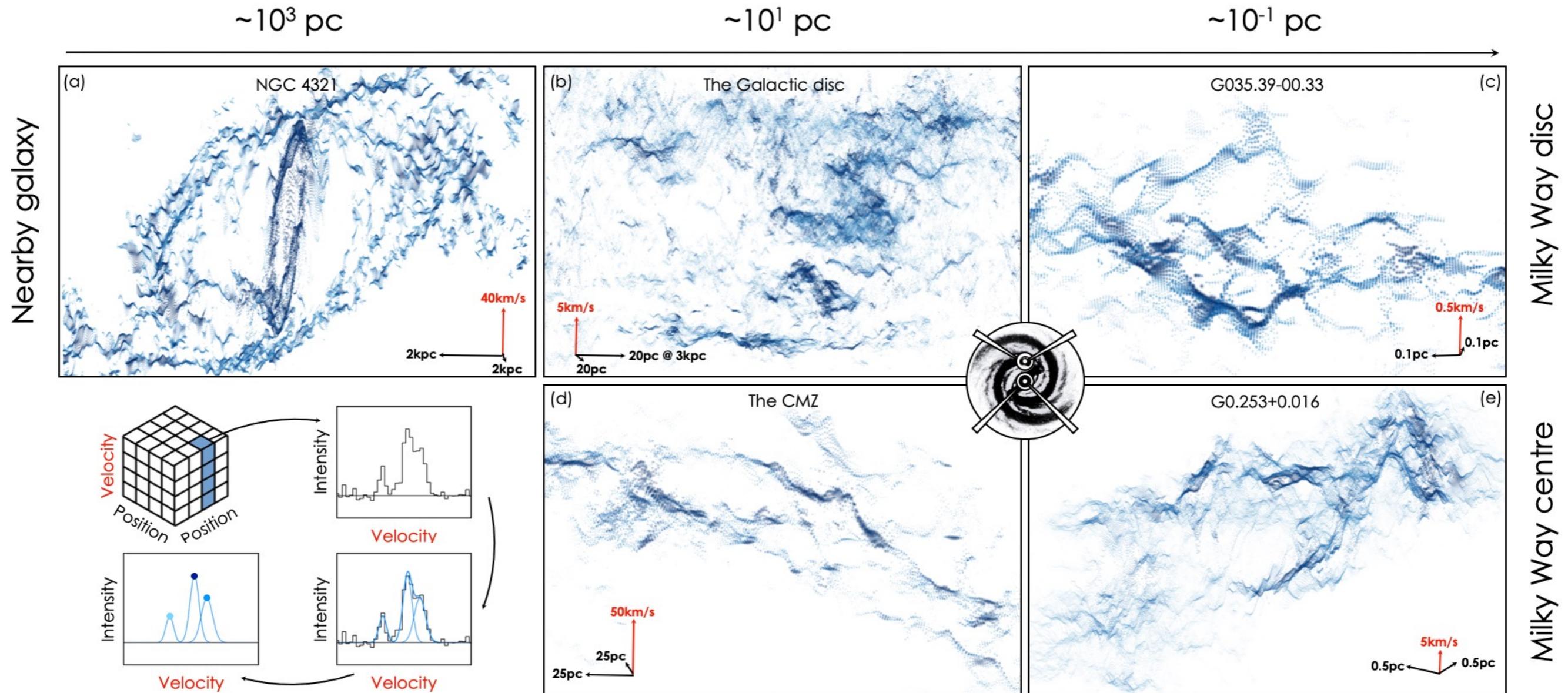
The ISM is wiggly



Everywhere we look, on **all scales** and in **all environments**, the velocity structure of the molecular ISM **looks the same...**

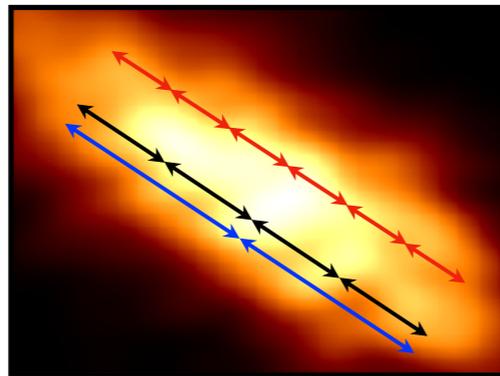
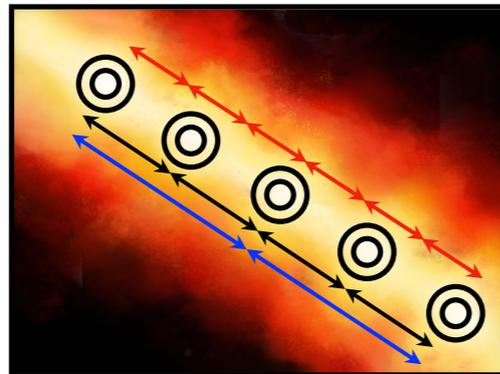
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not in isolation

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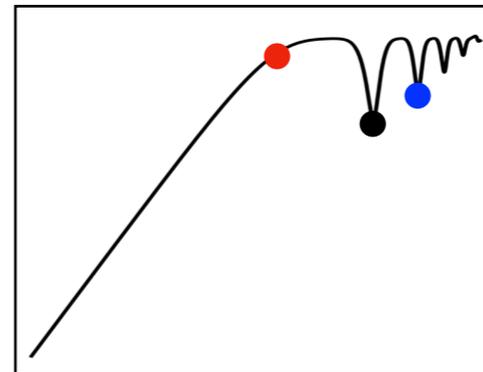
Intensity distribution



Periodicity

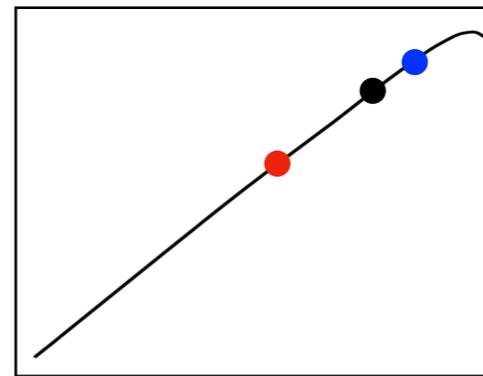
S_2

Structure function

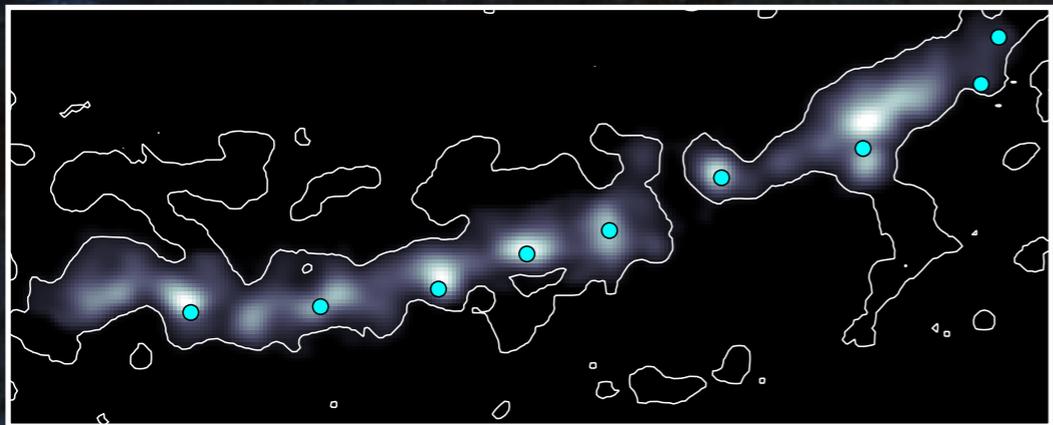


No periodicity

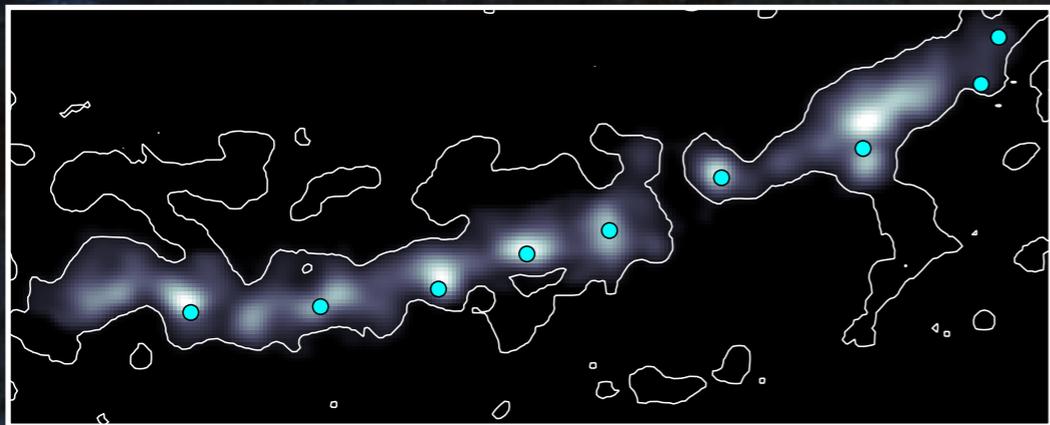
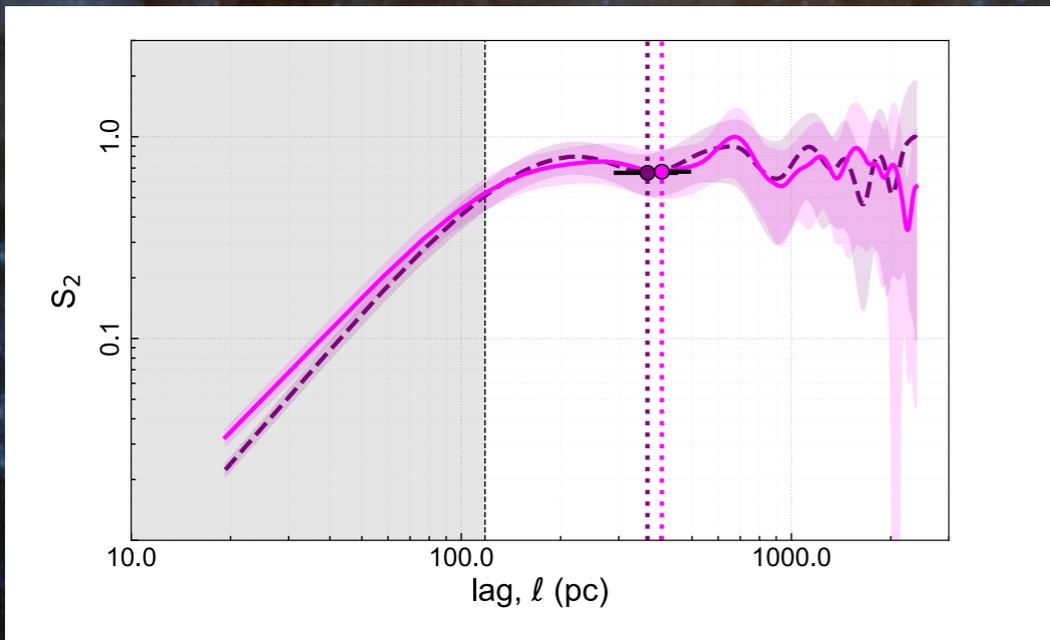
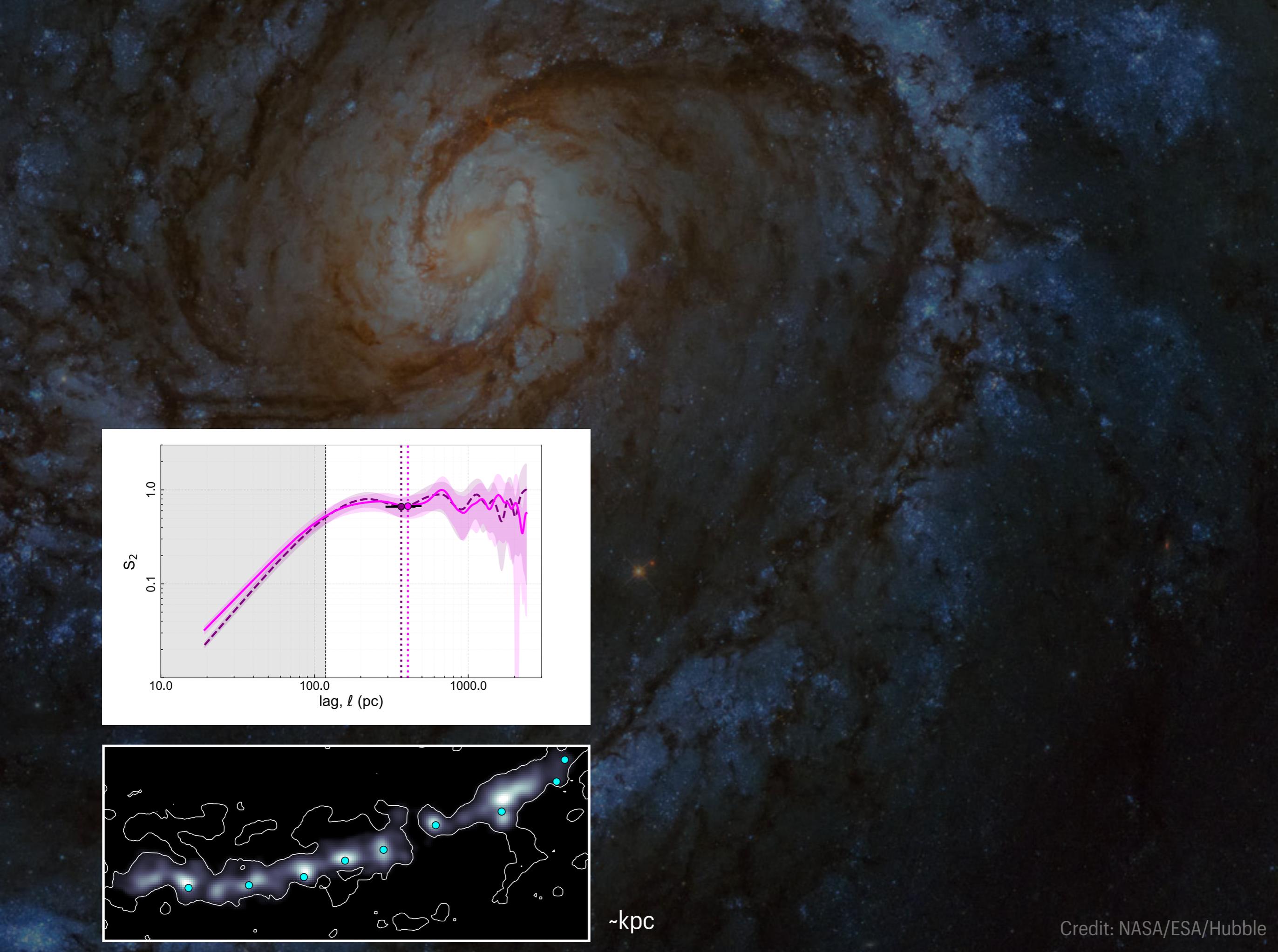
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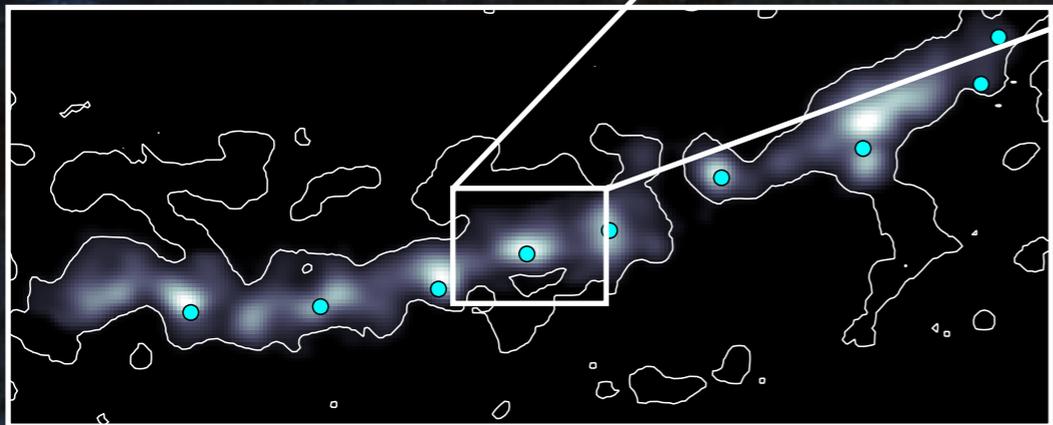
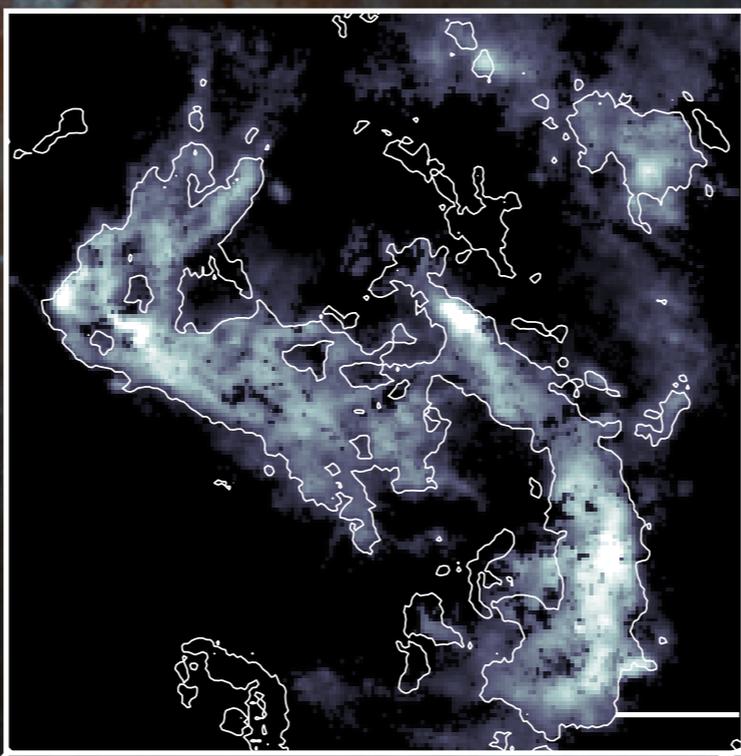
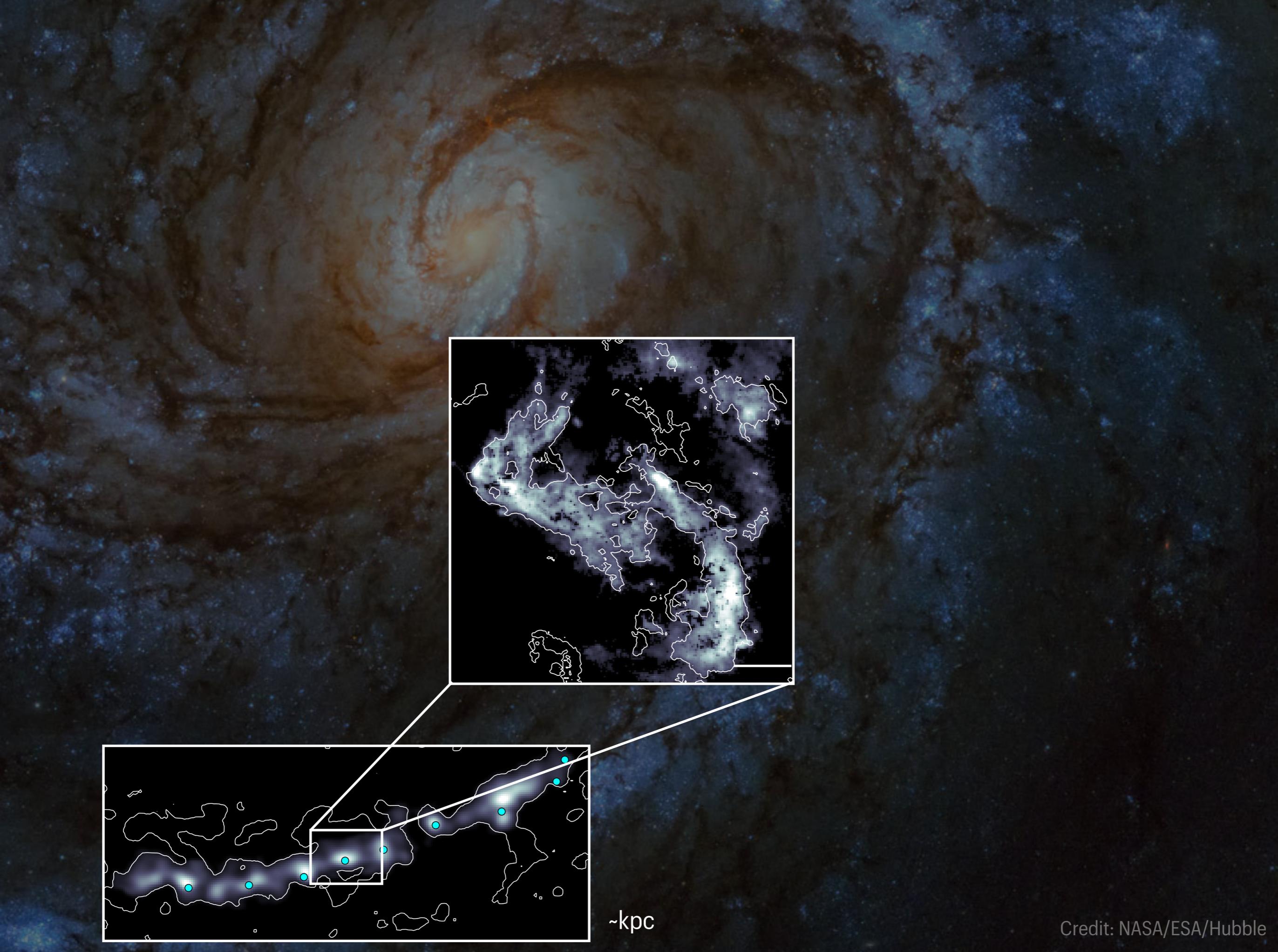
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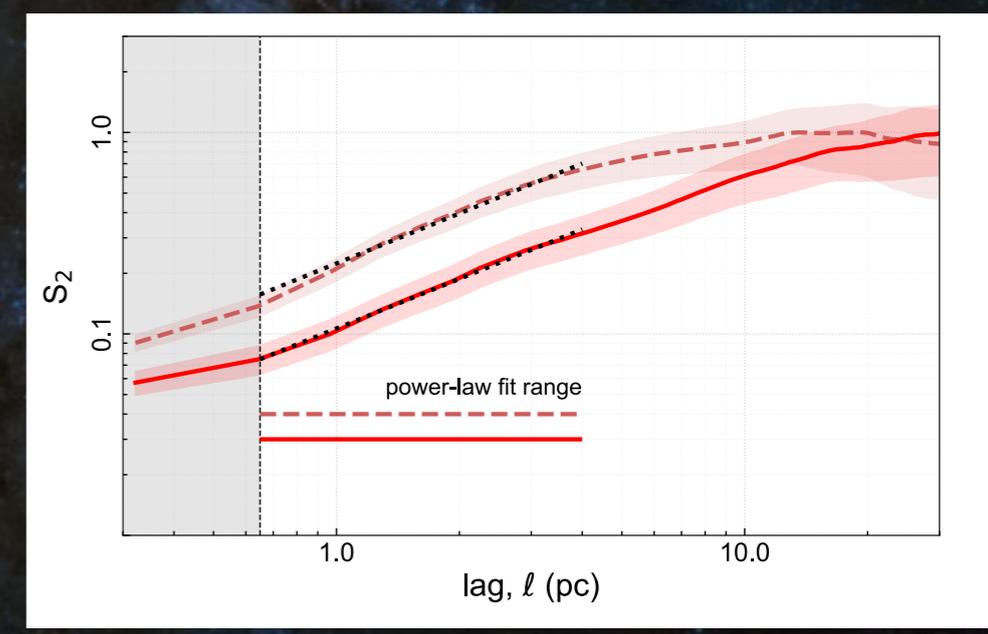
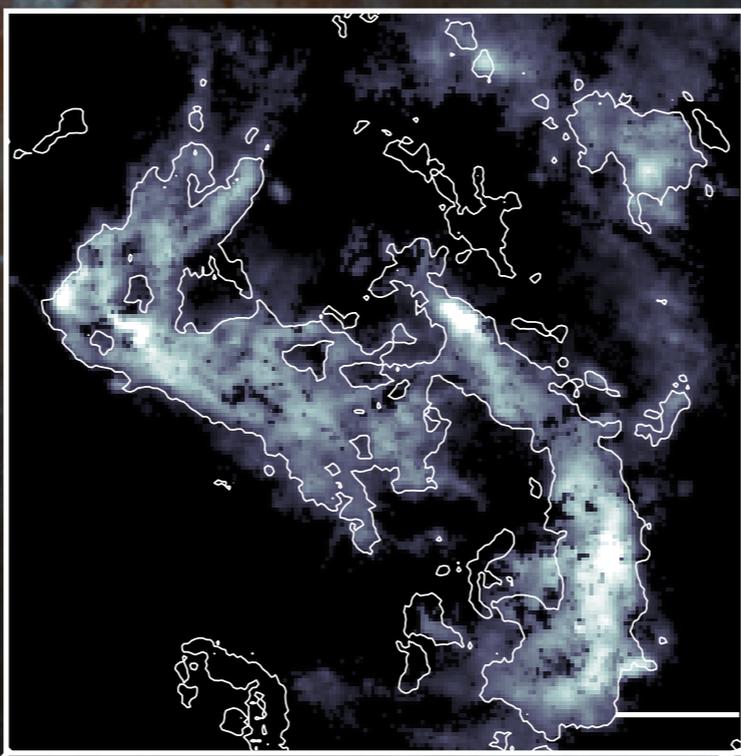
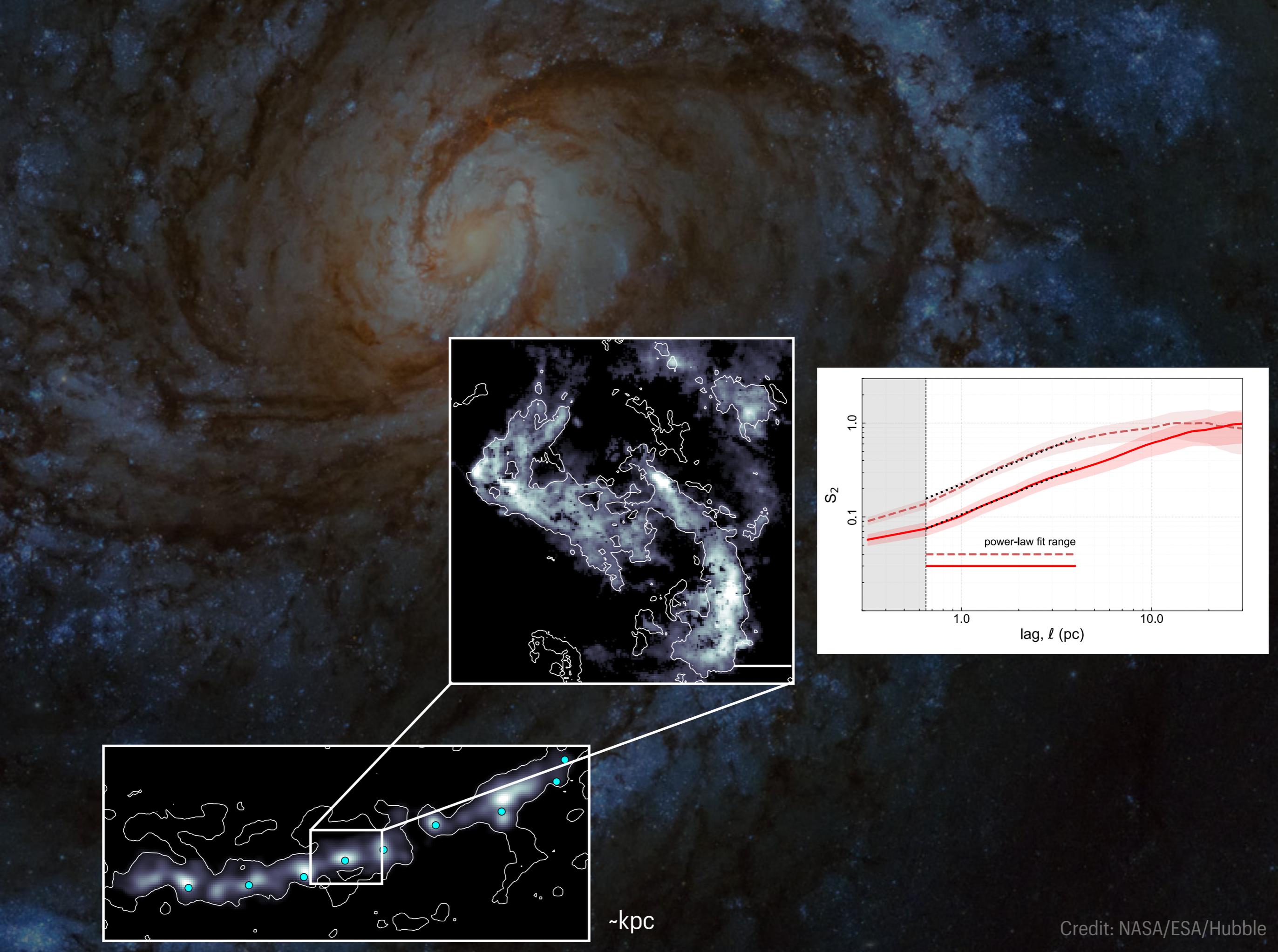
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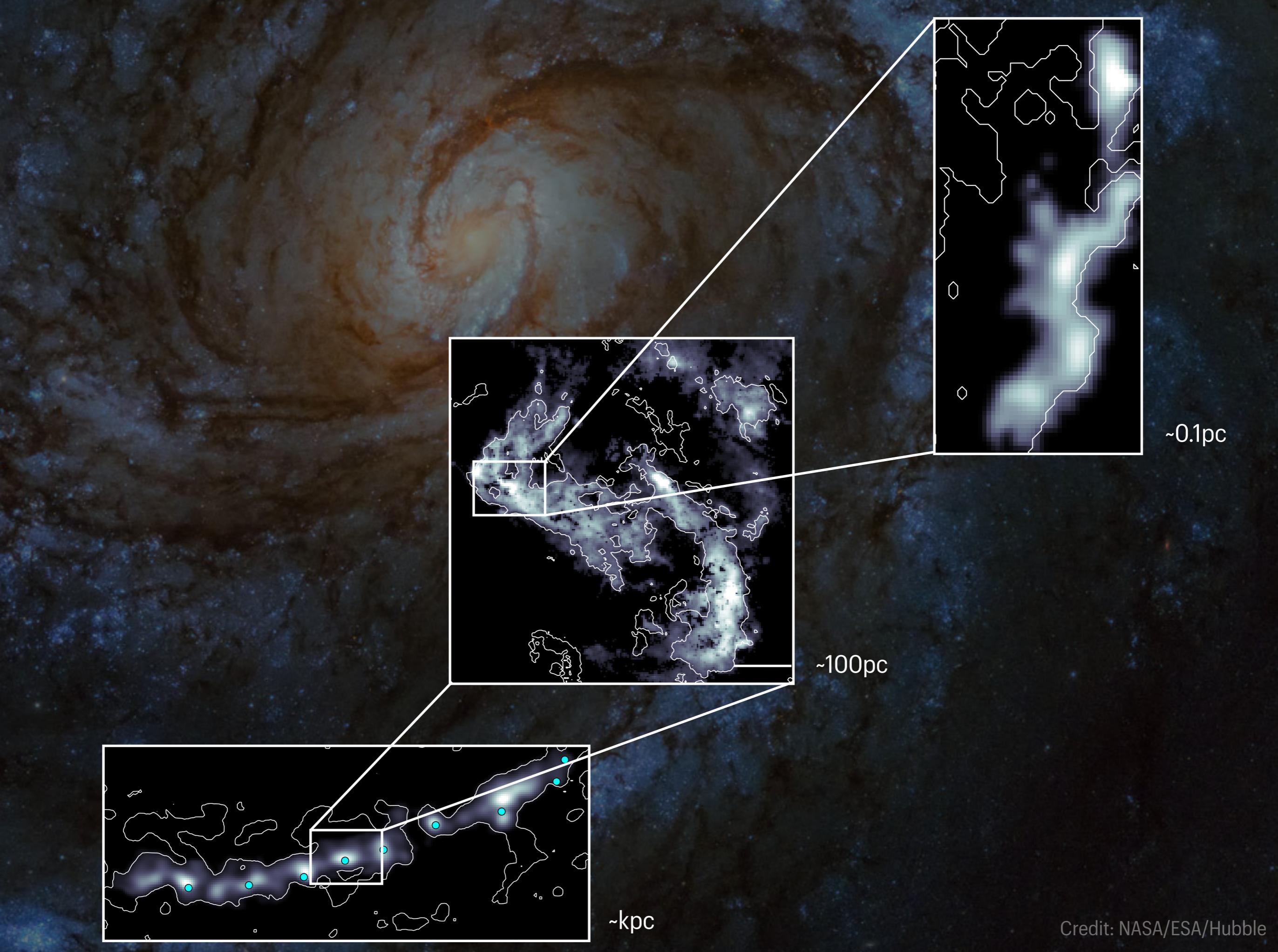
~kpc



~kpc



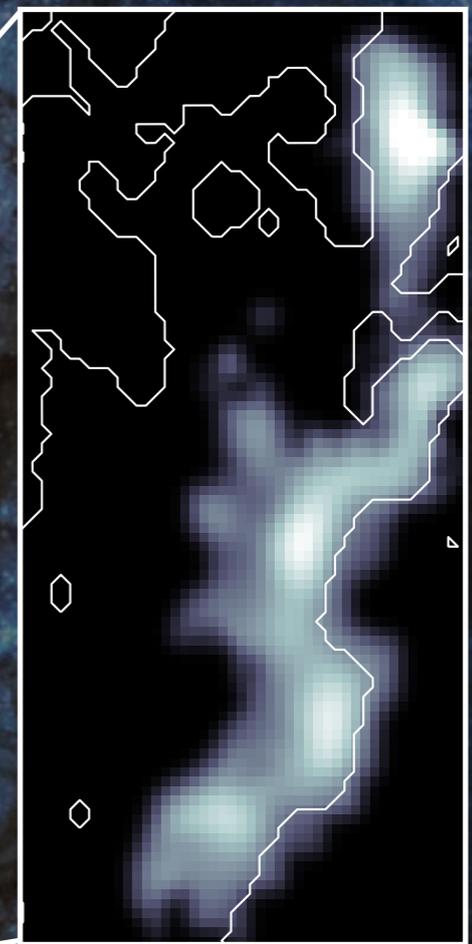
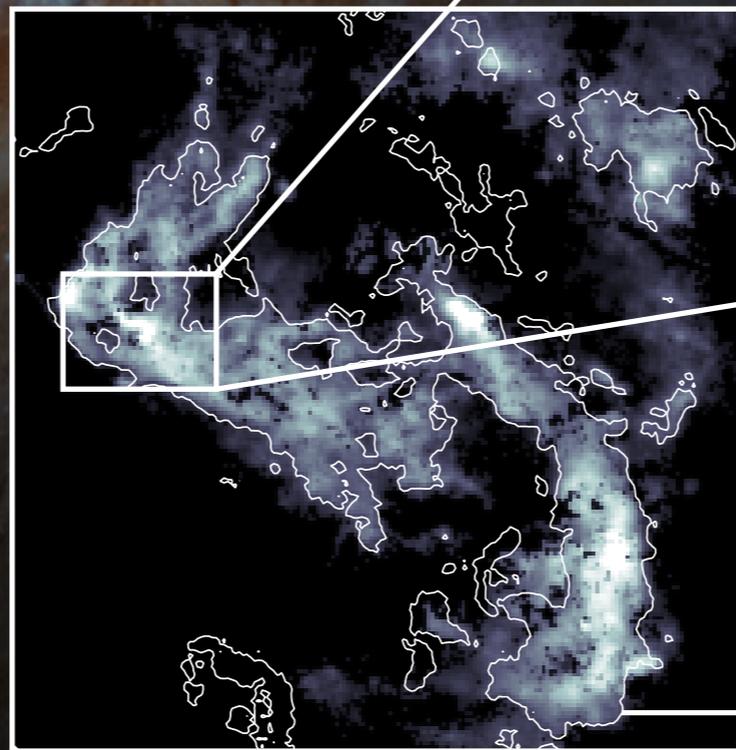
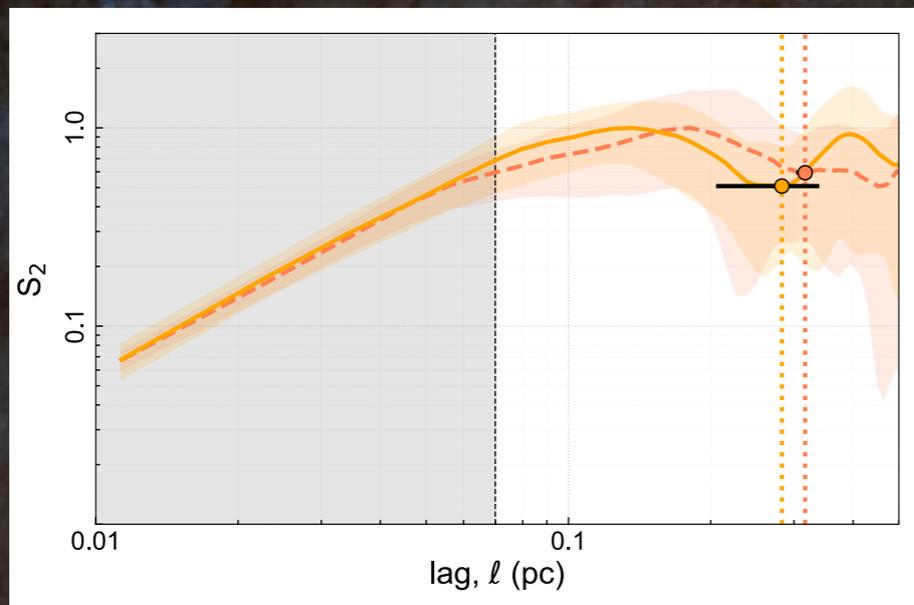
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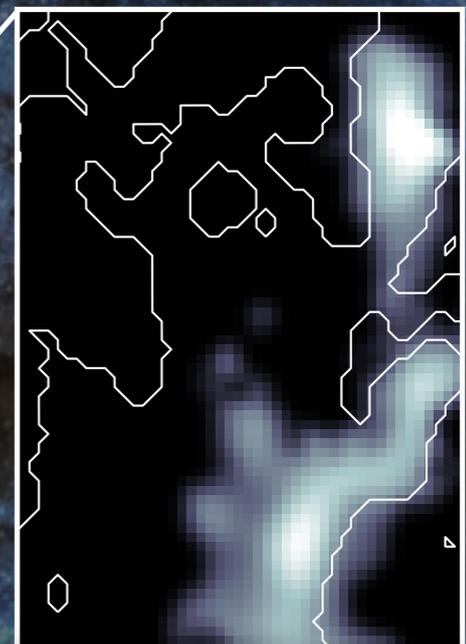
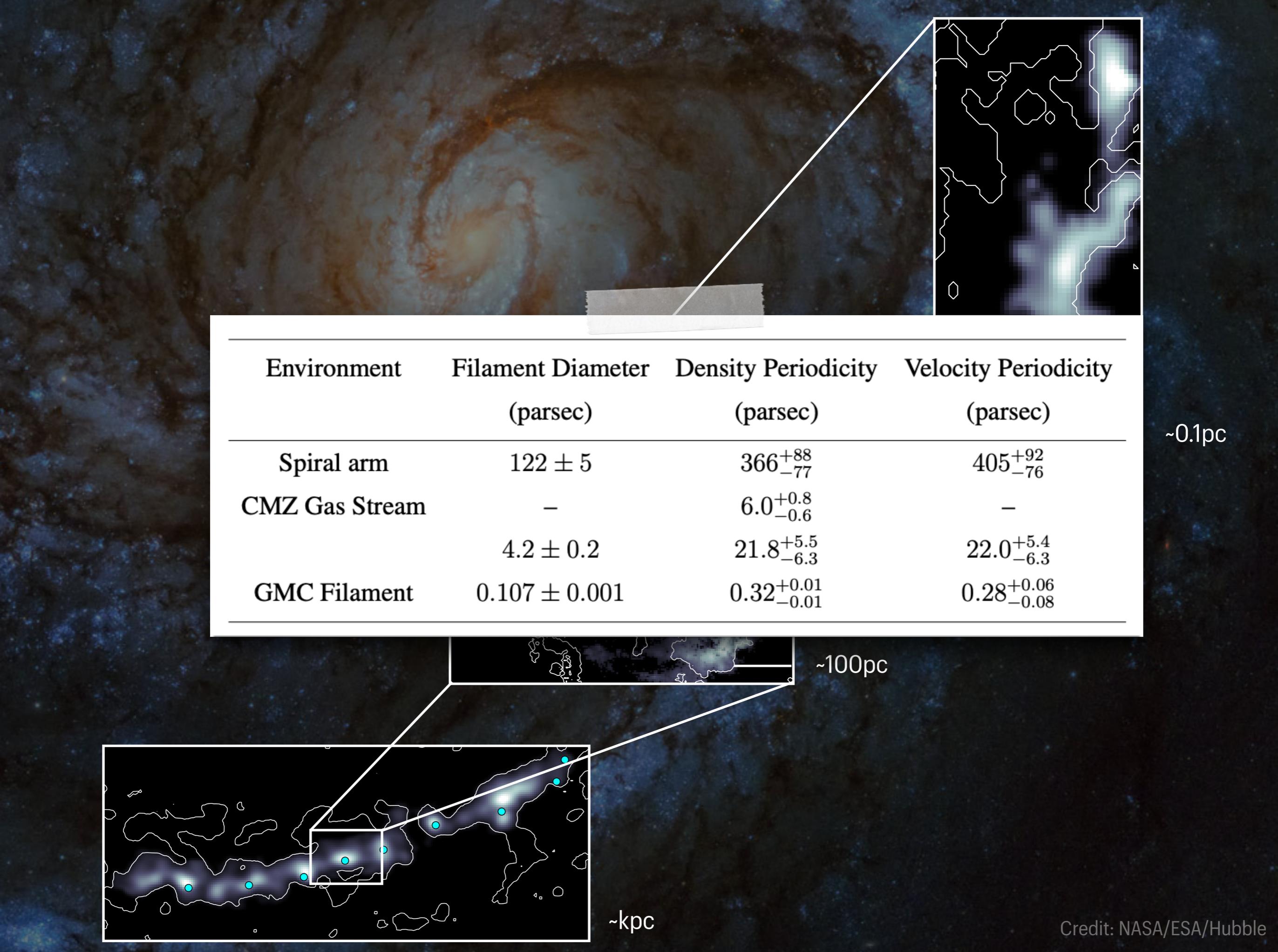


~0.1pc

~100pc

~kpc



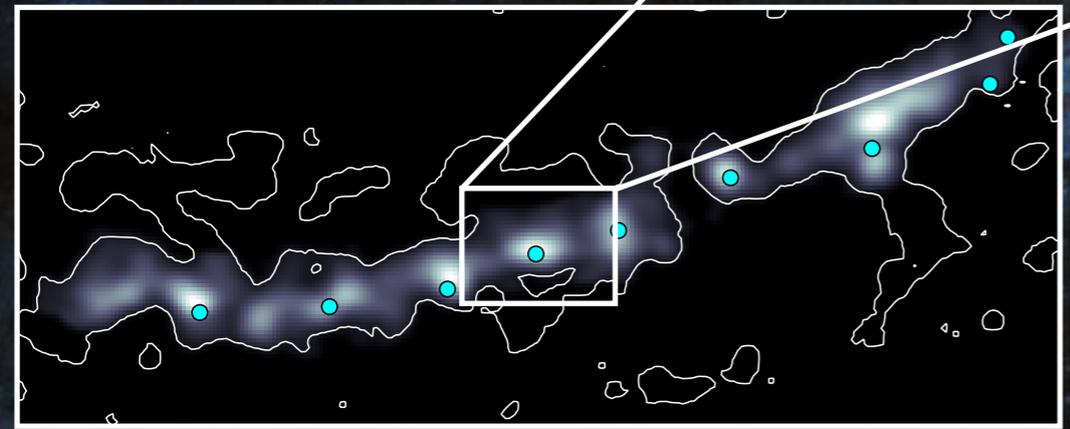


Environment	Filament Diameter (parsec)	Density Periodicity (parsec)	Velocity Periodicity (parsec)
Spiral arm	122 ± 5	366^{+88}_{-77}	405^{+92}_{-76}
CMZ Gas Stream	—	$6.0^{+0.8}_{-0.6}$	—
	4.2 ± 0.2	$21.8^{+5.5}_{-6.3}$	$22.0^{+5.4}_{-6.3}$
GMC Filament	0.107 ± 0.001	$0.32^{+0.01}_{-0.01}$	$0.28^{+0.06}_{-0.08}$

~0.1pc



~100pc



~kpc

Cores, filaments, clouds (generally speaking) are not in isolation... but equilibrium?

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