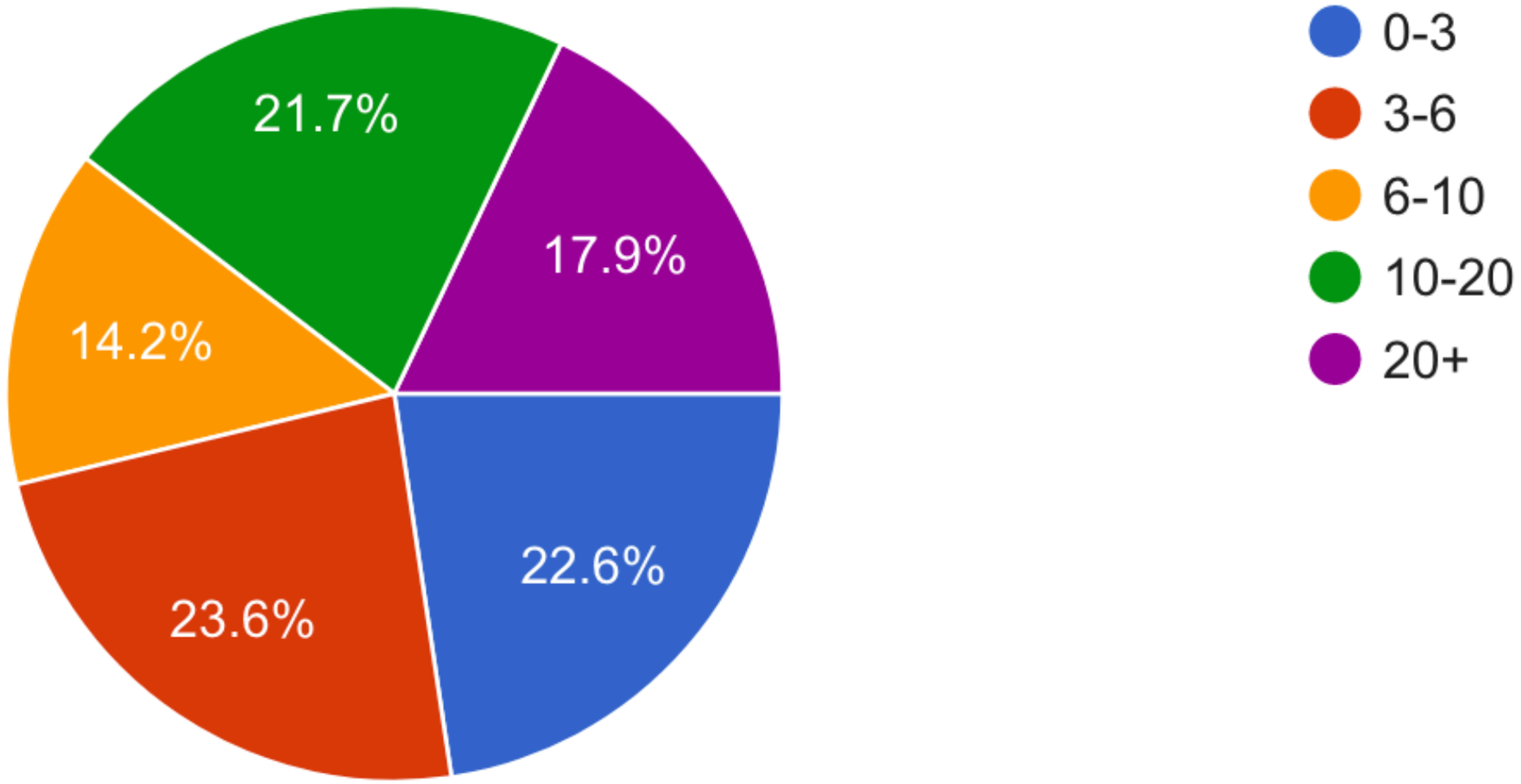
BASIC STATS

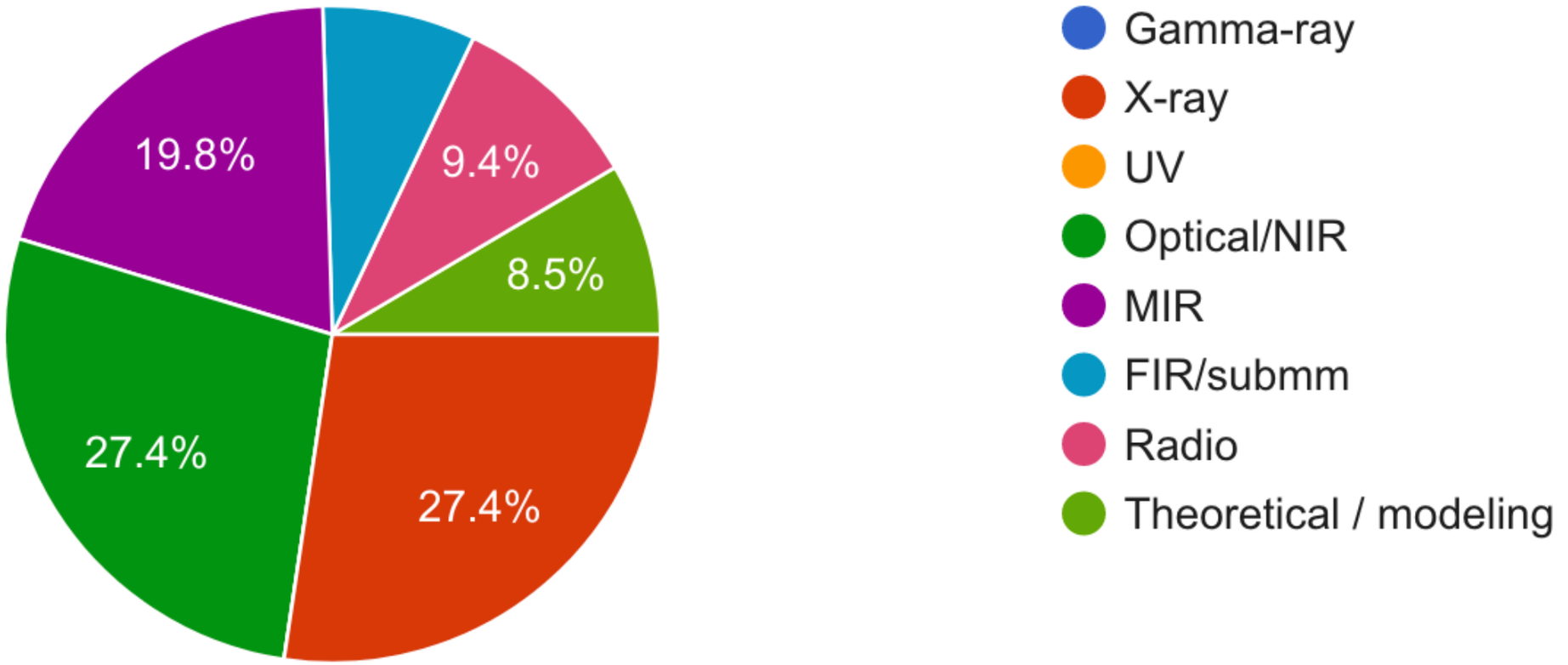
*) Number of years spent working on AGN/tori

106 responses



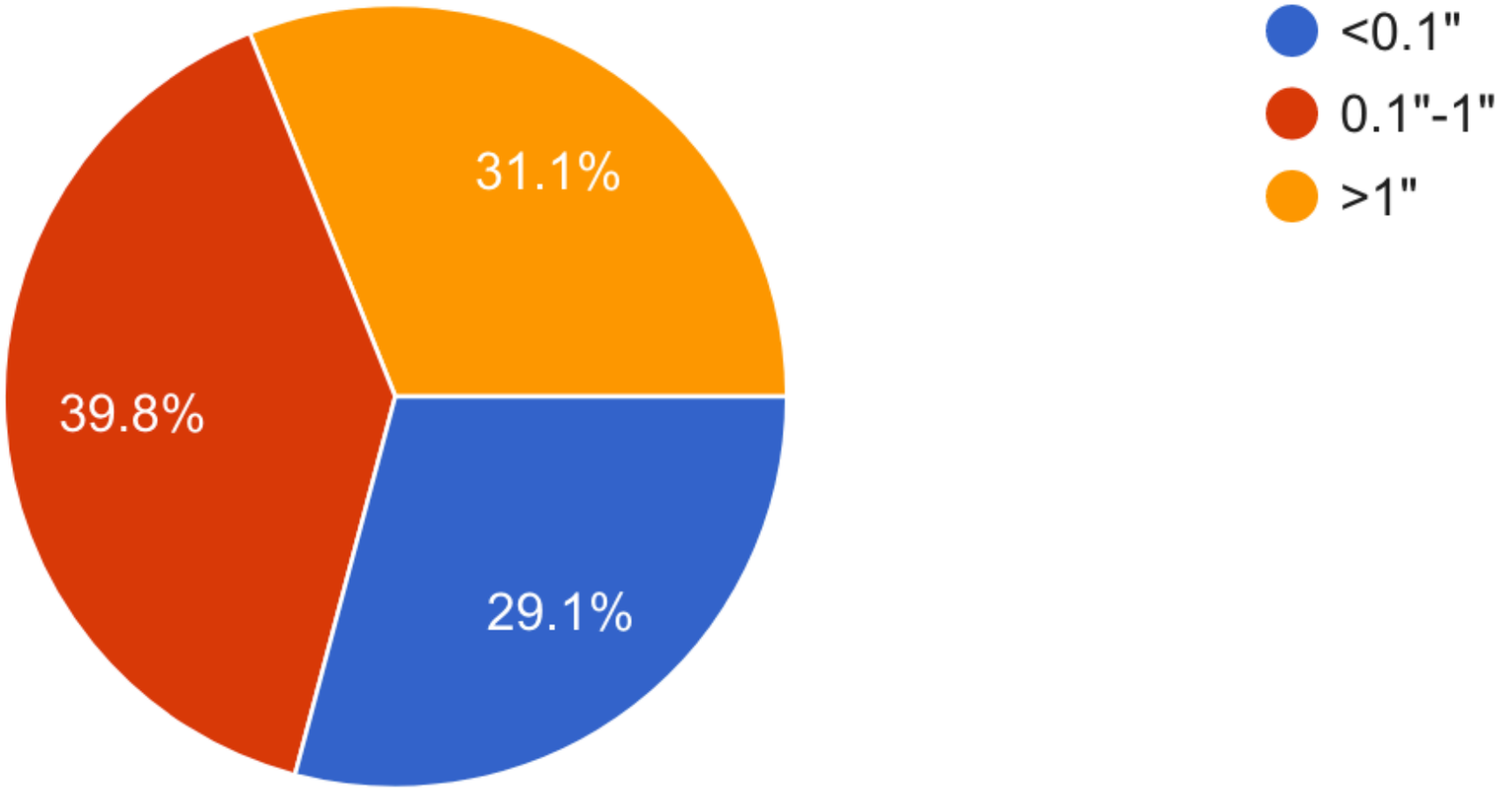
*) Preferred waveband (what you primarily work in or think about; yes, you have to pick one)

106 responses



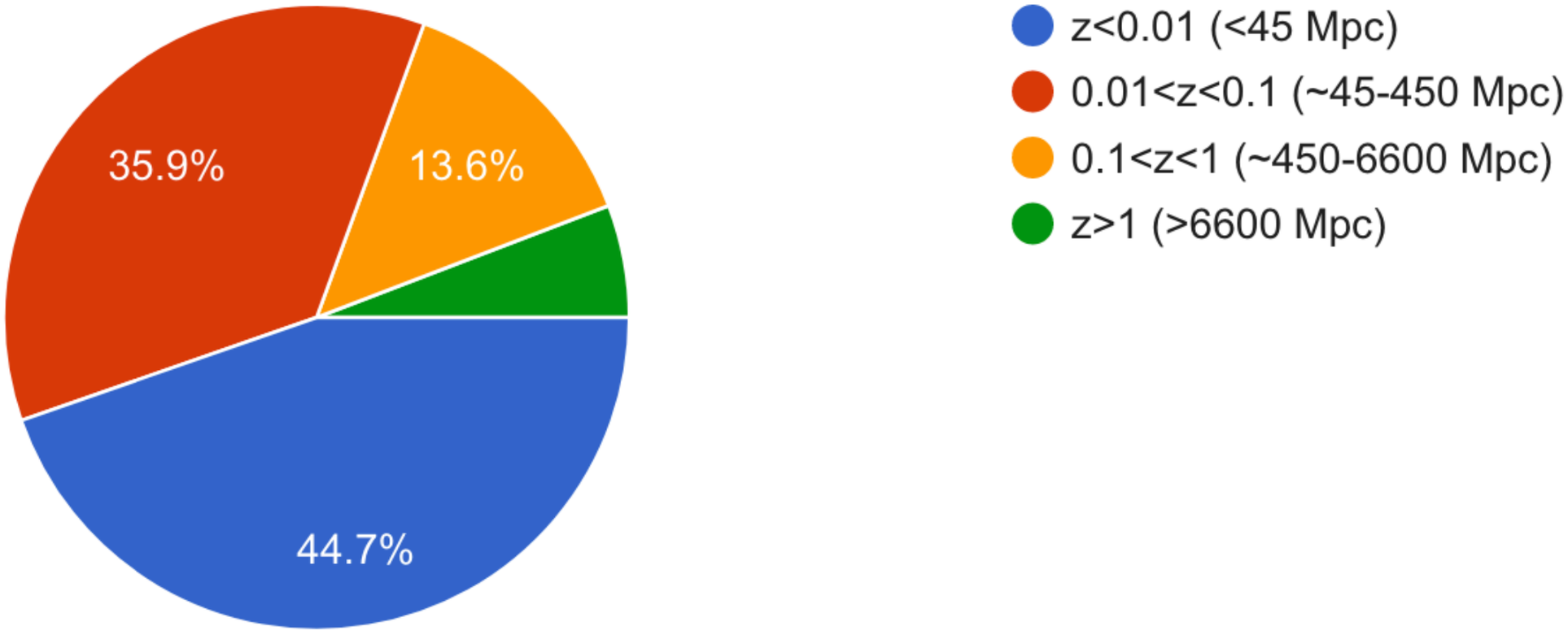
*) What is the most typical spatial resolution you work with?

103 responses



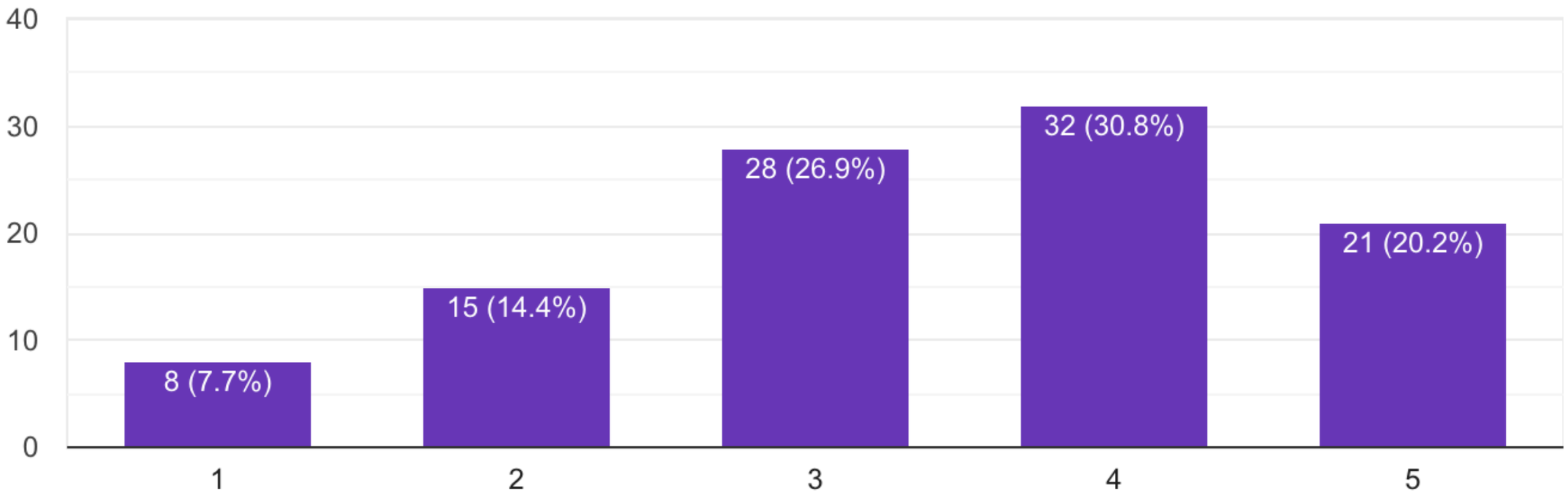
*) What is the most typical redshift / distance you work with?

103 responses



This questionnaire was...

104 responses



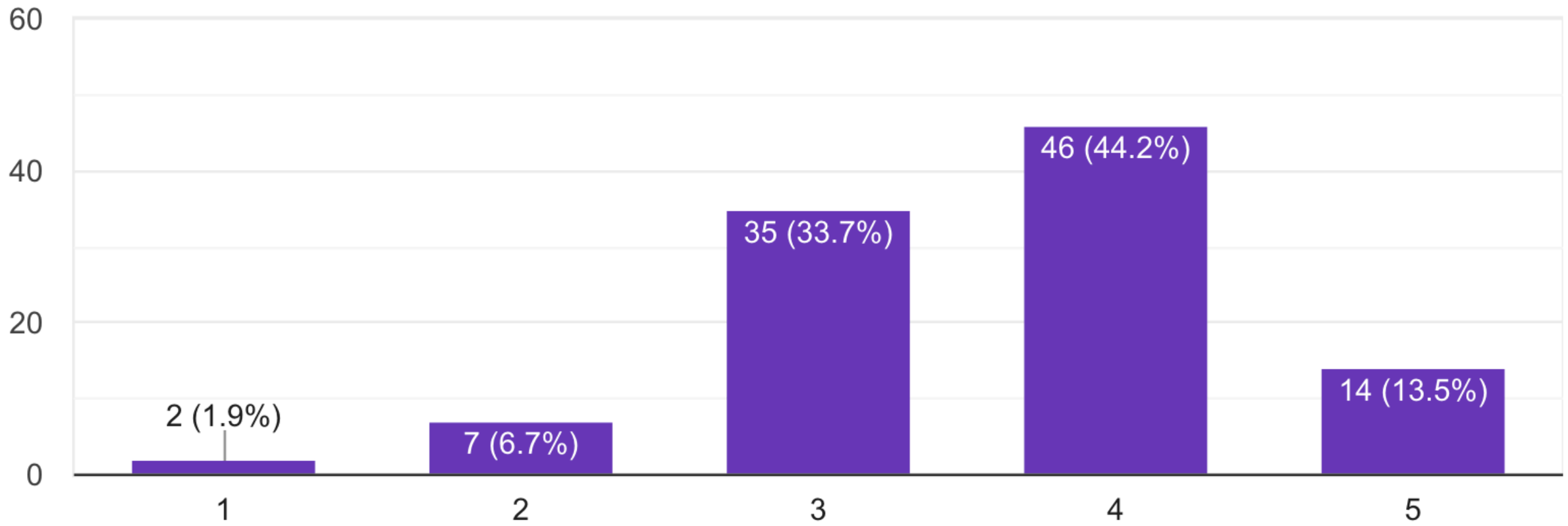
Tedious

Enjoyable

Structure / Composition

*) How much hard evidence do we actually have for clumpiness of the torus?

104 responses

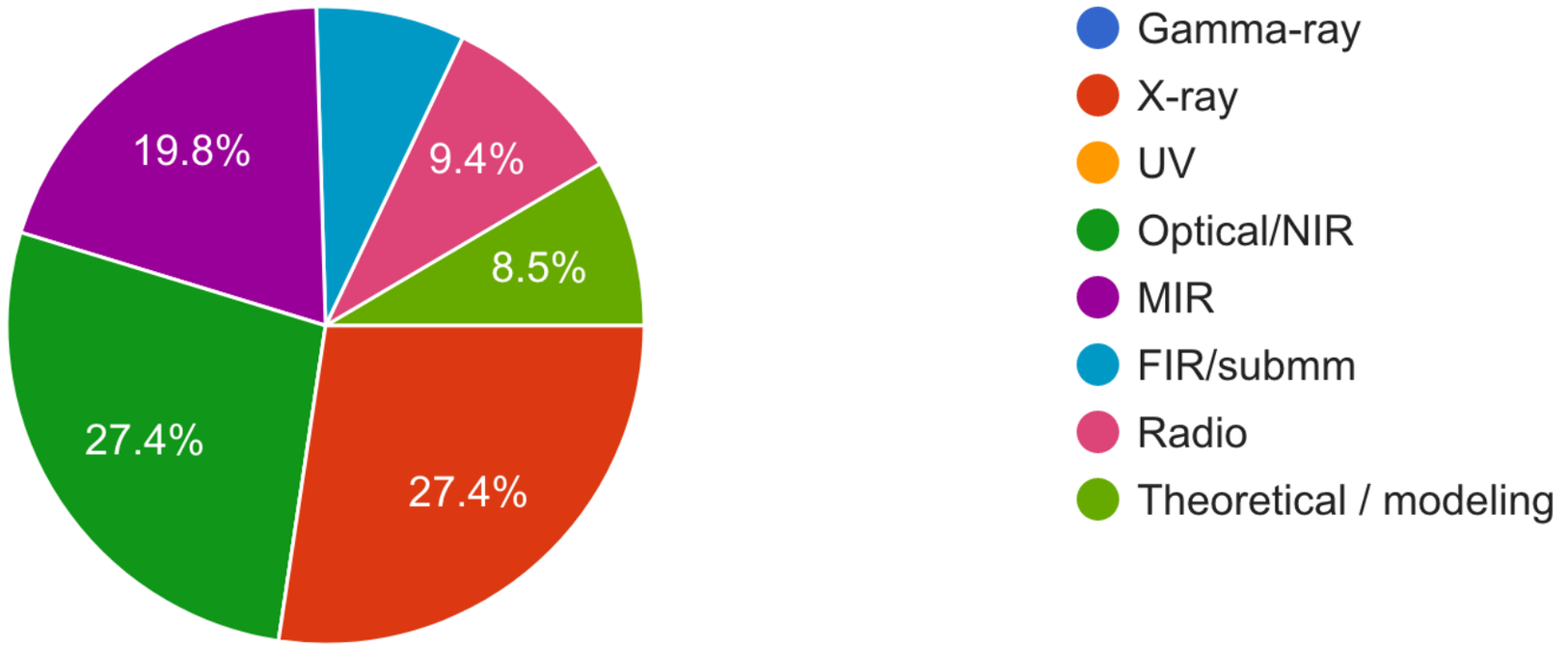


None at all

Very Strong

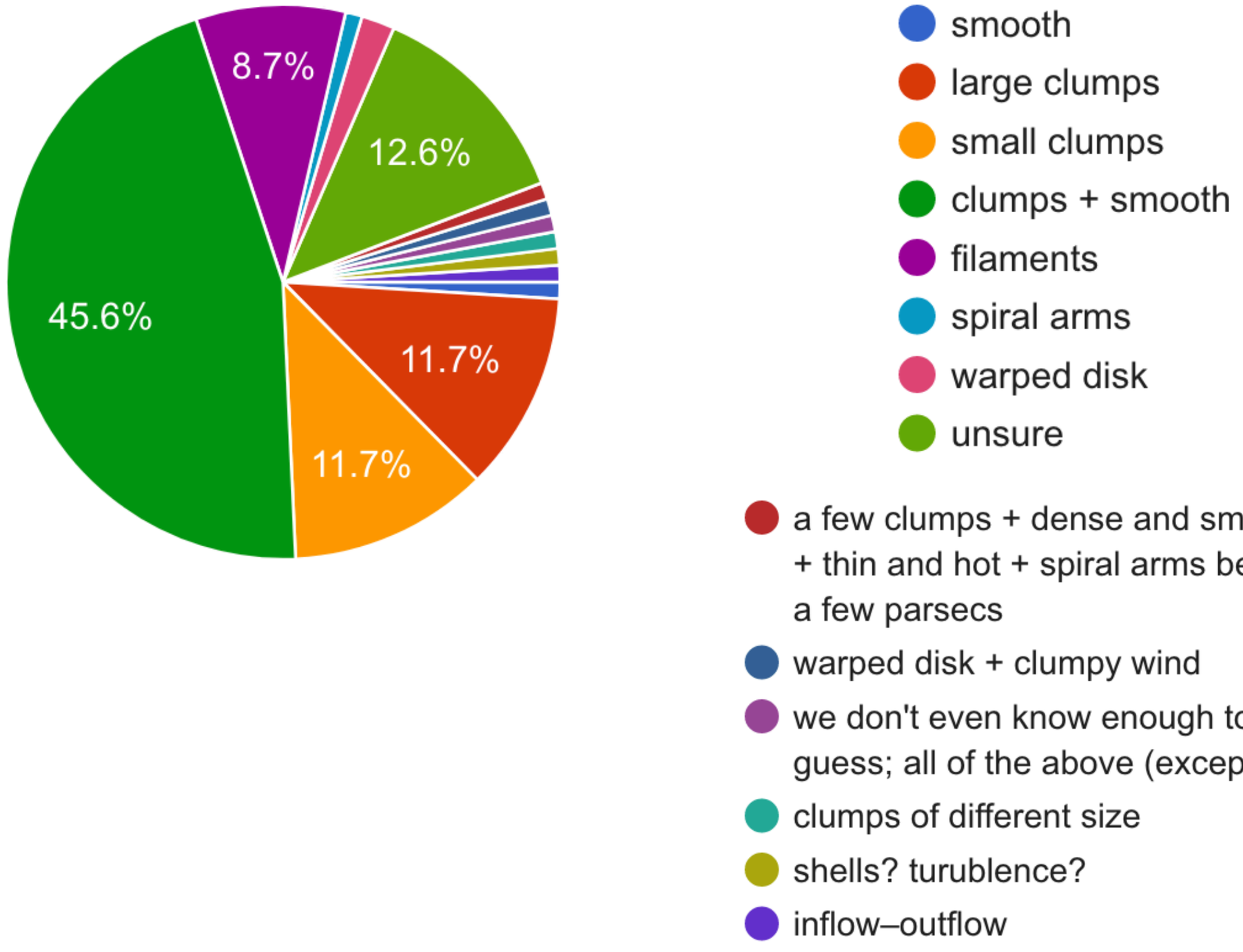
*) Preferred waveband (what you primarily work in or think about; yes, you have to pick one)

106 responses



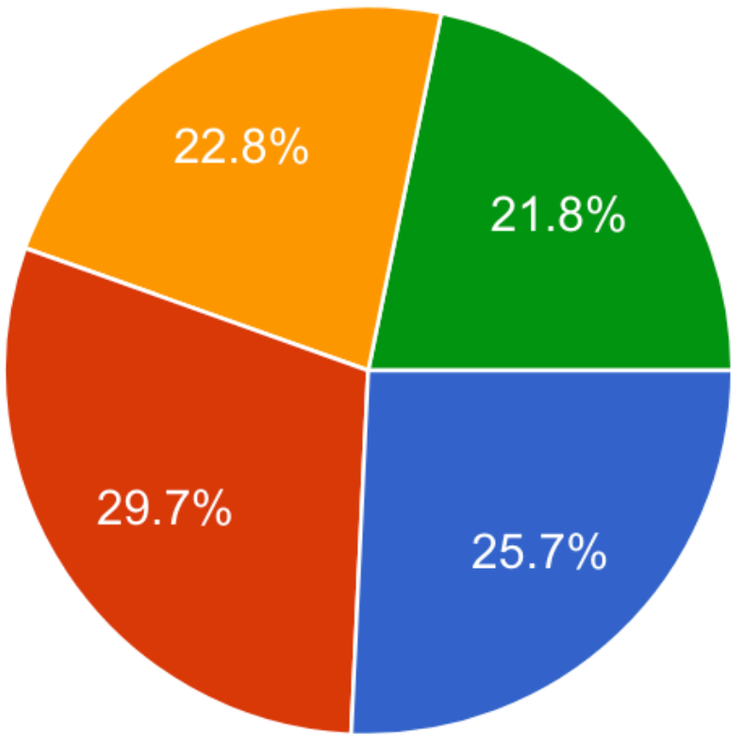
*) What do you think is the dominant substructure of the torus?

103 responses



*) The polar dust structures seen in the mid-infrared ...

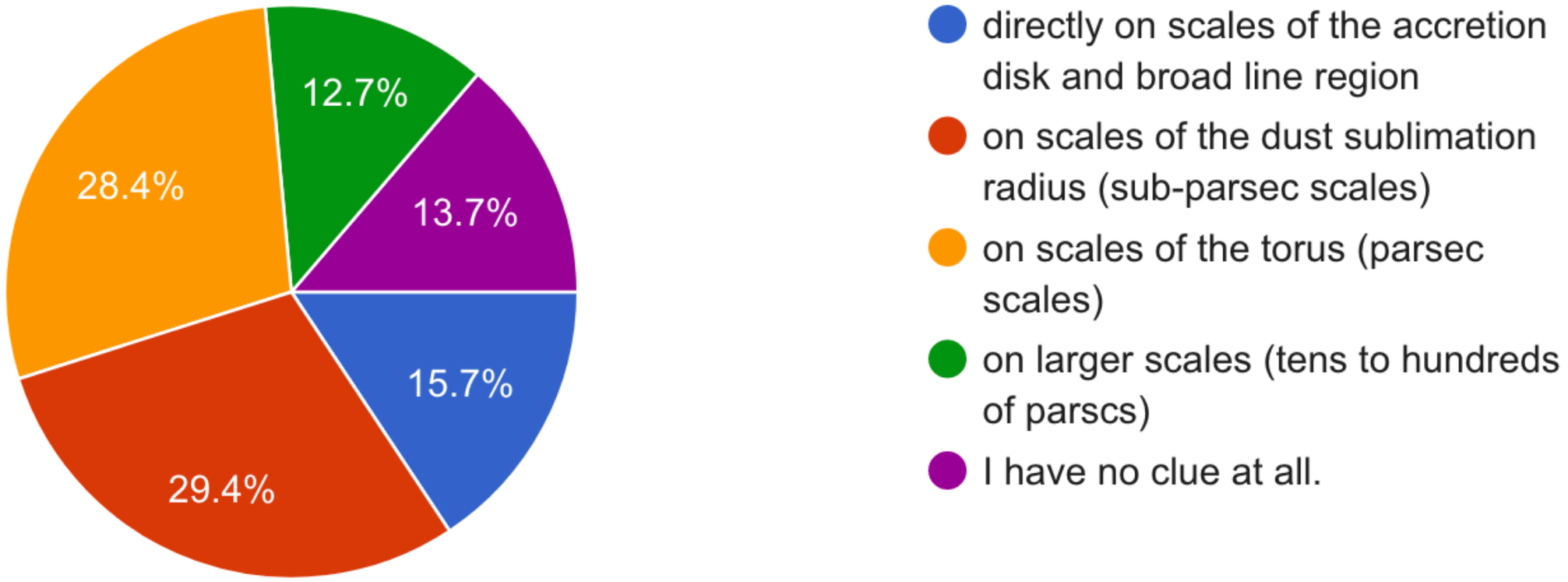
101 responses



- are completely unrelated to the actual torus (e.g., merely some dust in the ionisation cone).
- are a small part of the (larger) torus, e.g. only its inner directly illuminated walls.
- delineate the actual obscuring structures in AGN which take a cone-like structure.
- are a complete enigma to me; I have no idea whatsoever.

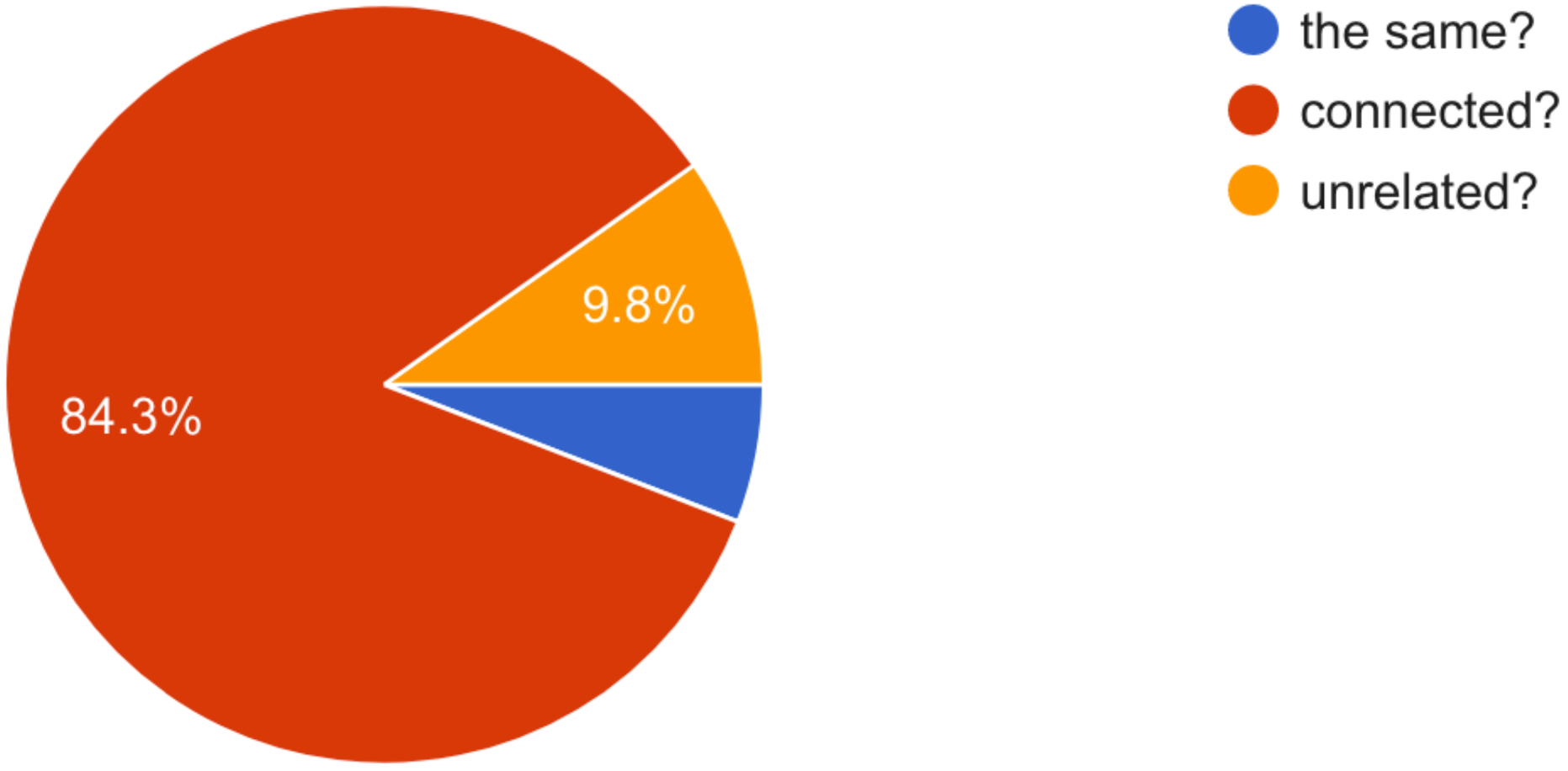
*) On what physical scales are the ionisation cones and winds from AGN collimated?

102 responses



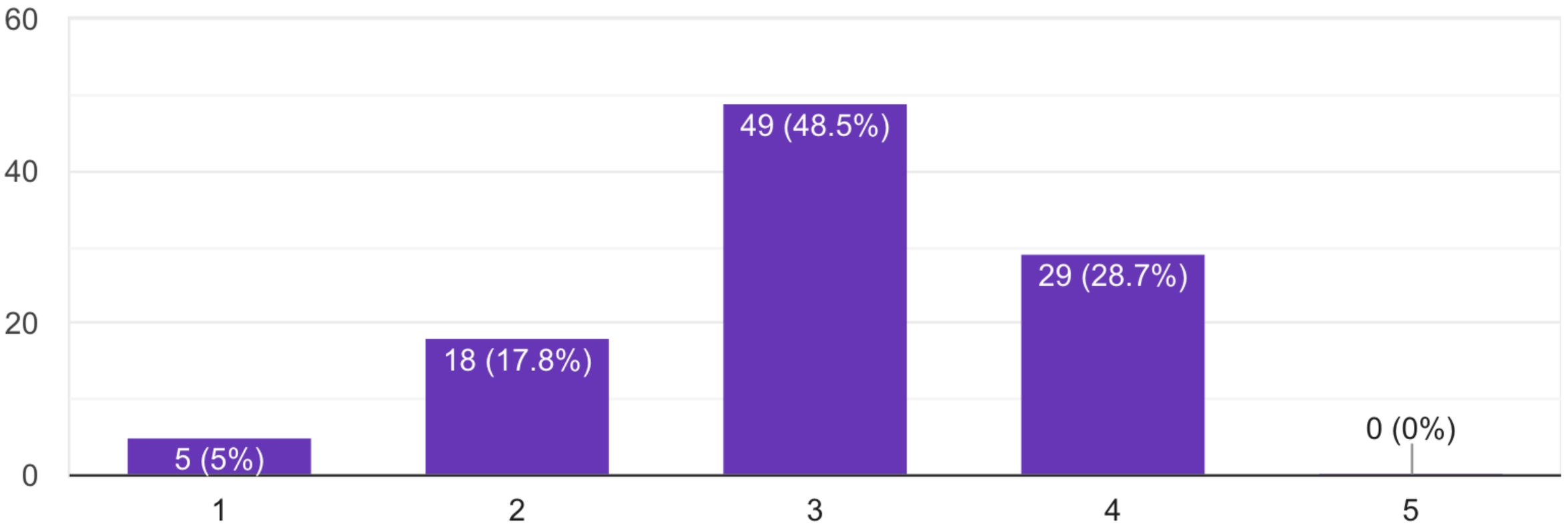
*) Are the obscurers at different wavelengths...

102 responses



*) How generalizable are the results from observations of our favorite objects are (e.g., NGC 1068, NGC 4151, Circinus, ...)?

101 responses



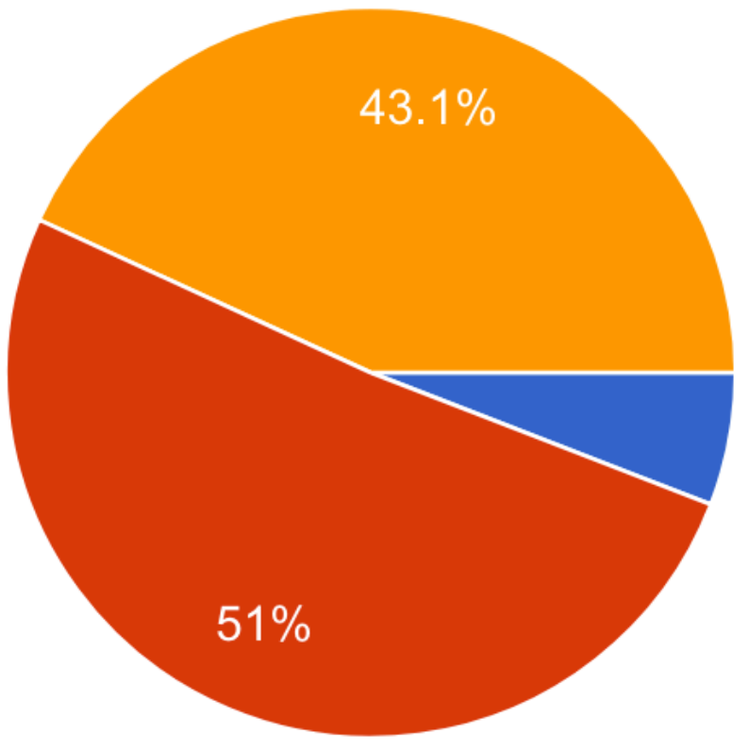
Not at all

Completely

Dynamics

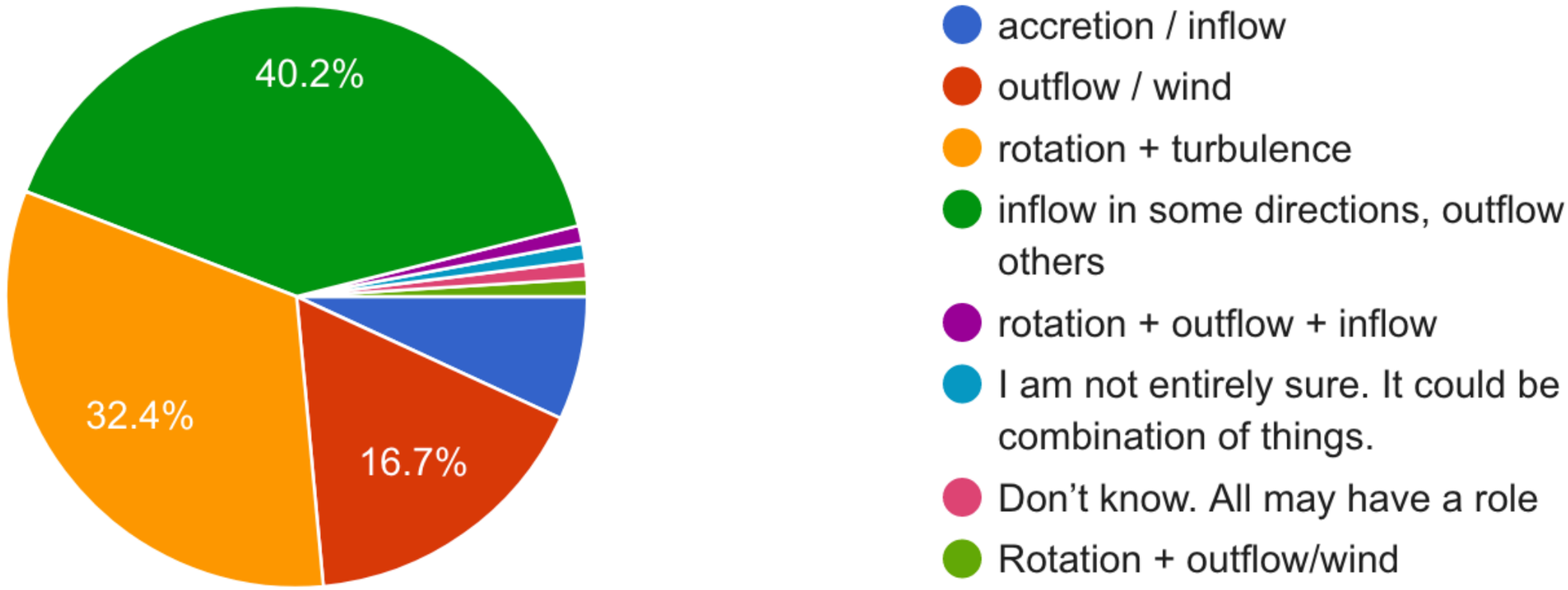
*) Can we get away with describing the "torus" as...

102 responses



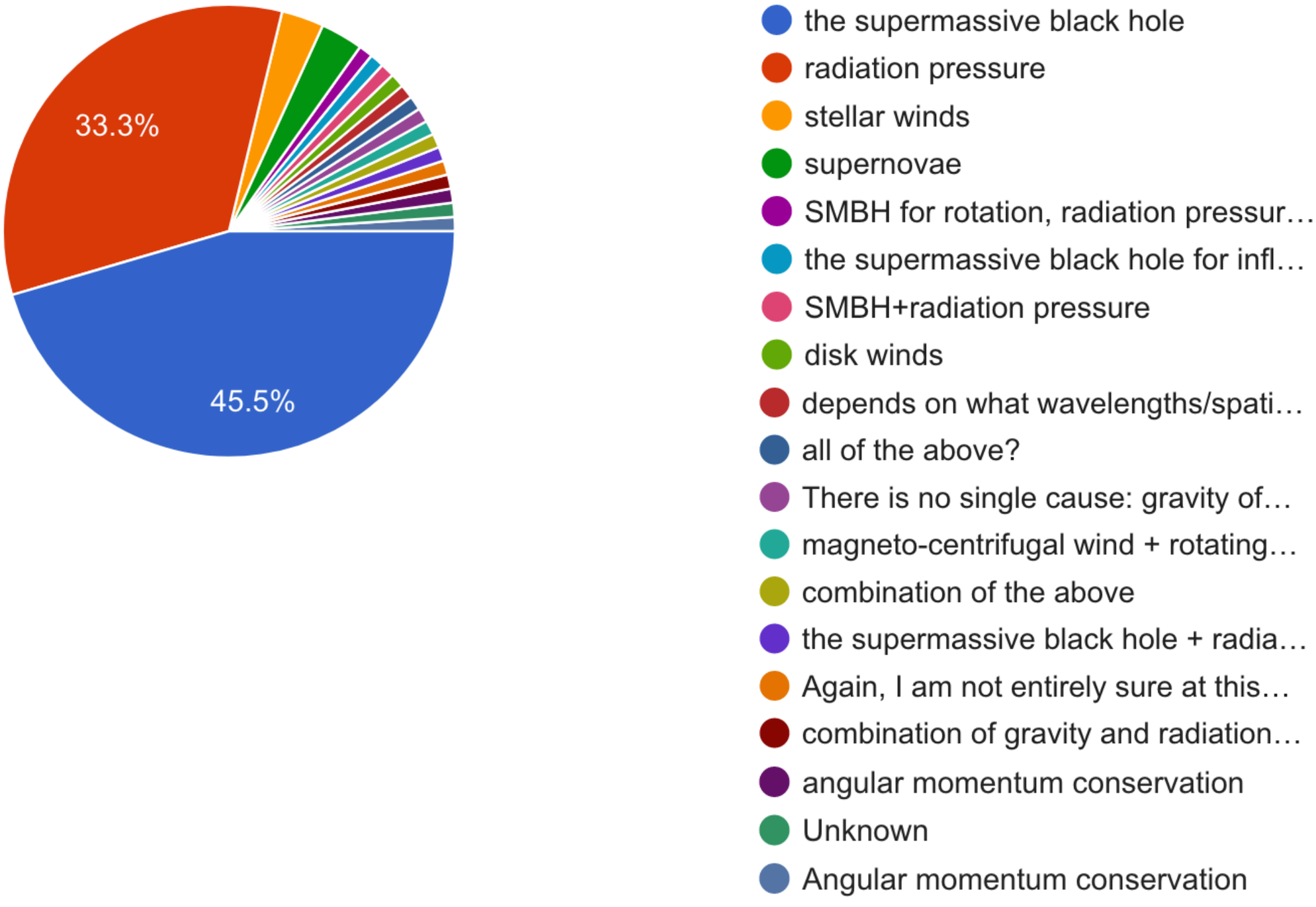
*) What is the dominant kinematic signature in the torus?

102 responses



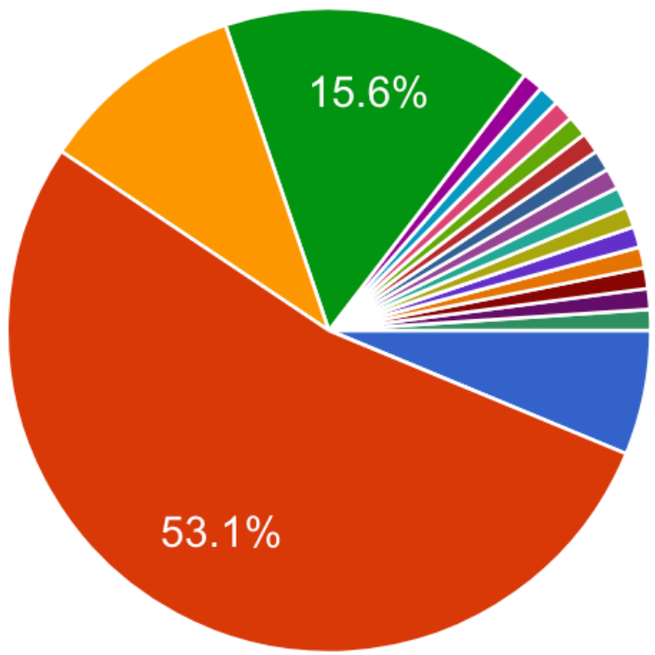
*) What is the primary cause of the kinematic signature in the torus environment?

99 responses



*) What is the best way to probe the kinematics of the torus?

96 responses

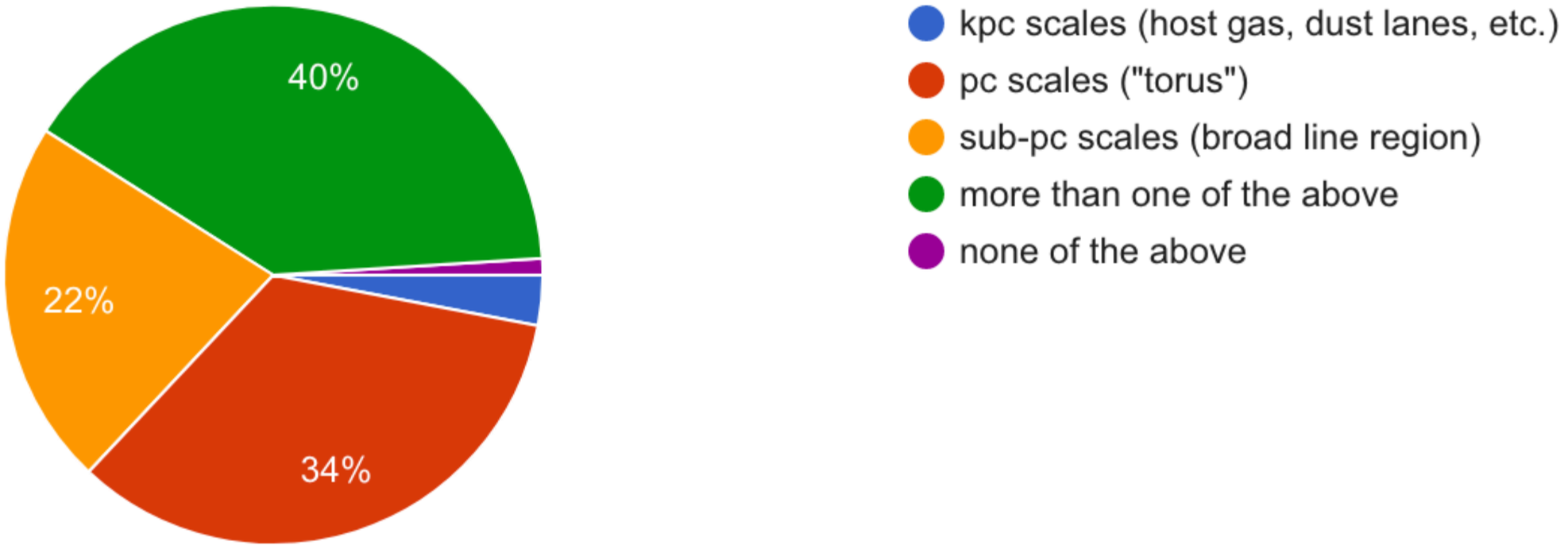


- VLBI of water masers
- velocity mapping of molecular mate…
- velocity mapping of atomic material…
- monitoring variability in the obscurat…
- VLBI of molecular & atomic materials
- all of the above together
- Every density regime will require diff…
- masers and ALMA molecular gas
- need multiple
- everything
- UV absorption and emission lines
- Nothing. Best to give up now.
- all of the above (and any more that…
- I cannot give a objective response h…
- All of the above.
- interferometry
- All of the above
- depends on which scale size

Reprocessing+Variability

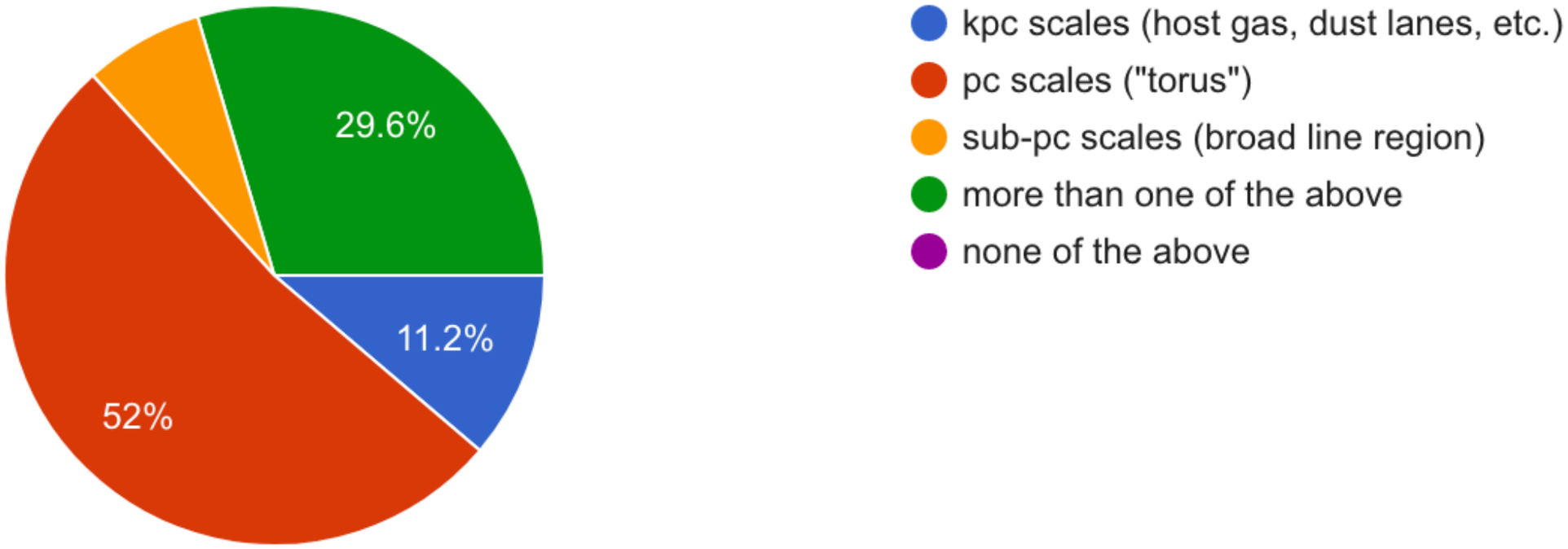
*) Where does the high column density absorption material seen in the X-ray band primarily arise from?

100 responses



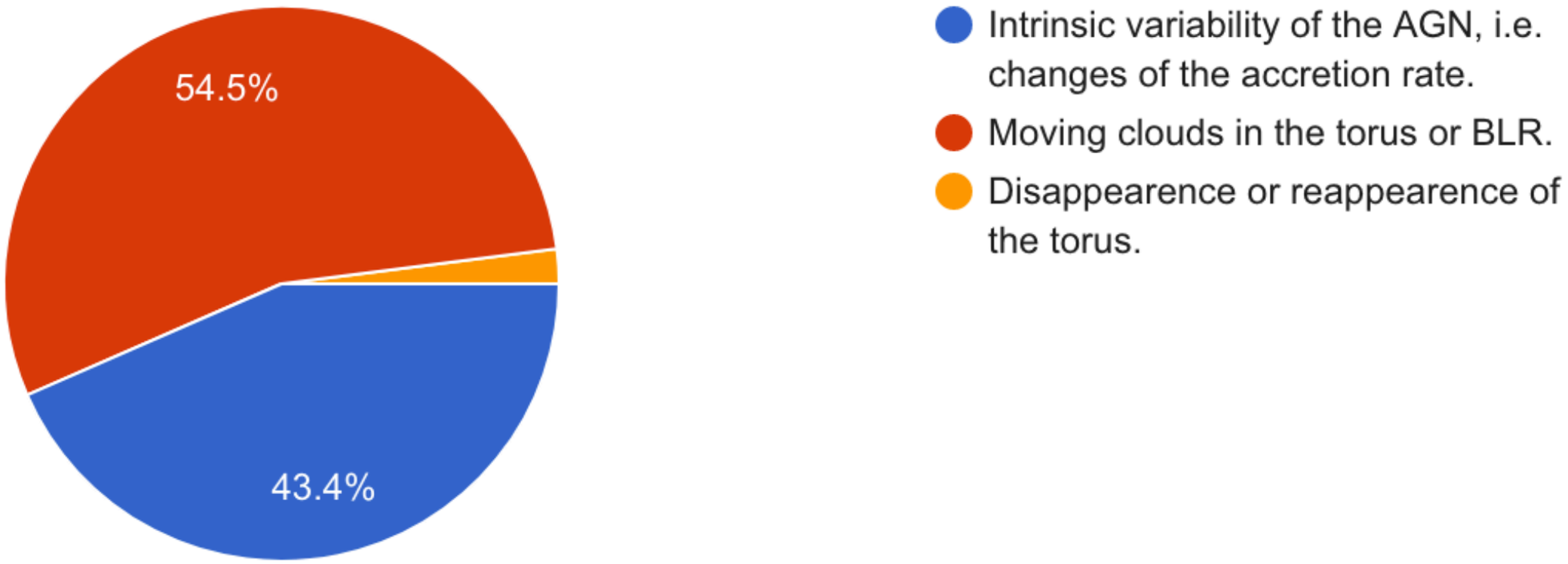
*) Where does the high extinction material seen in the optical/NIR band primarily arise from?

98 responses



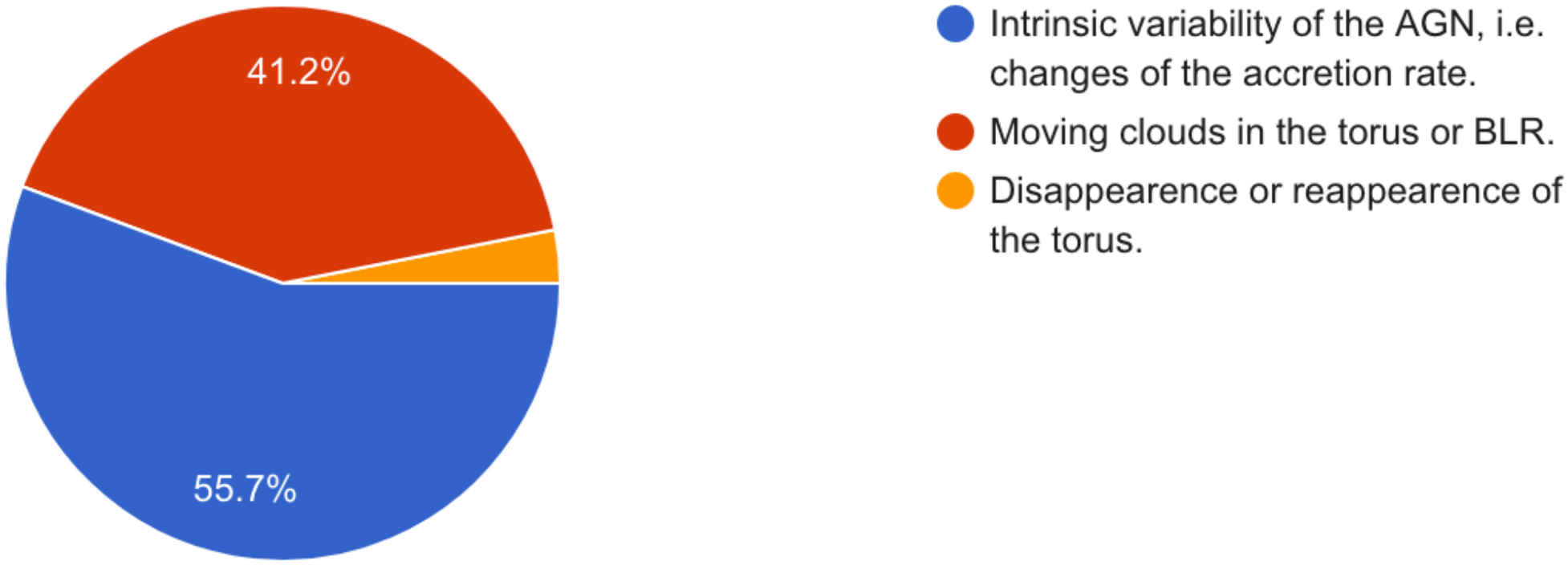
*) What is the main reason for X-ray changing-look AGN?

99 responses



*) What is the main reason for optical changing-look AGN (e.g., broad to narrow lines and the other way around)?

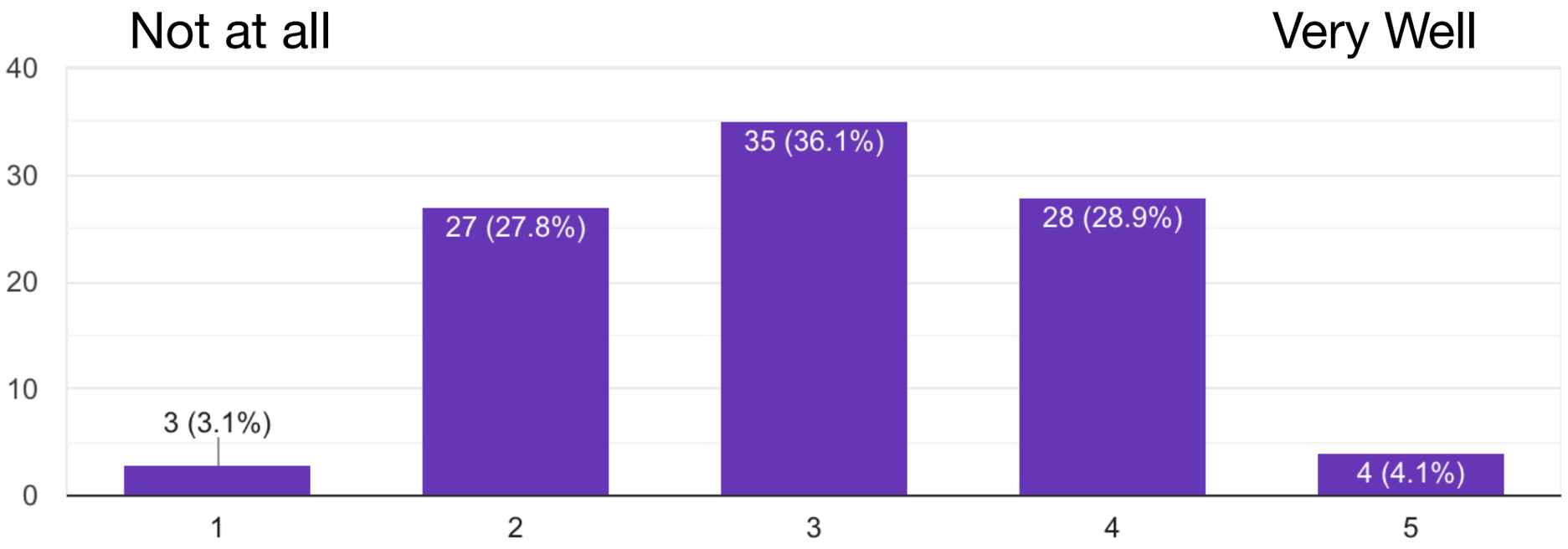
97 responses



Evolution+Parameter Space

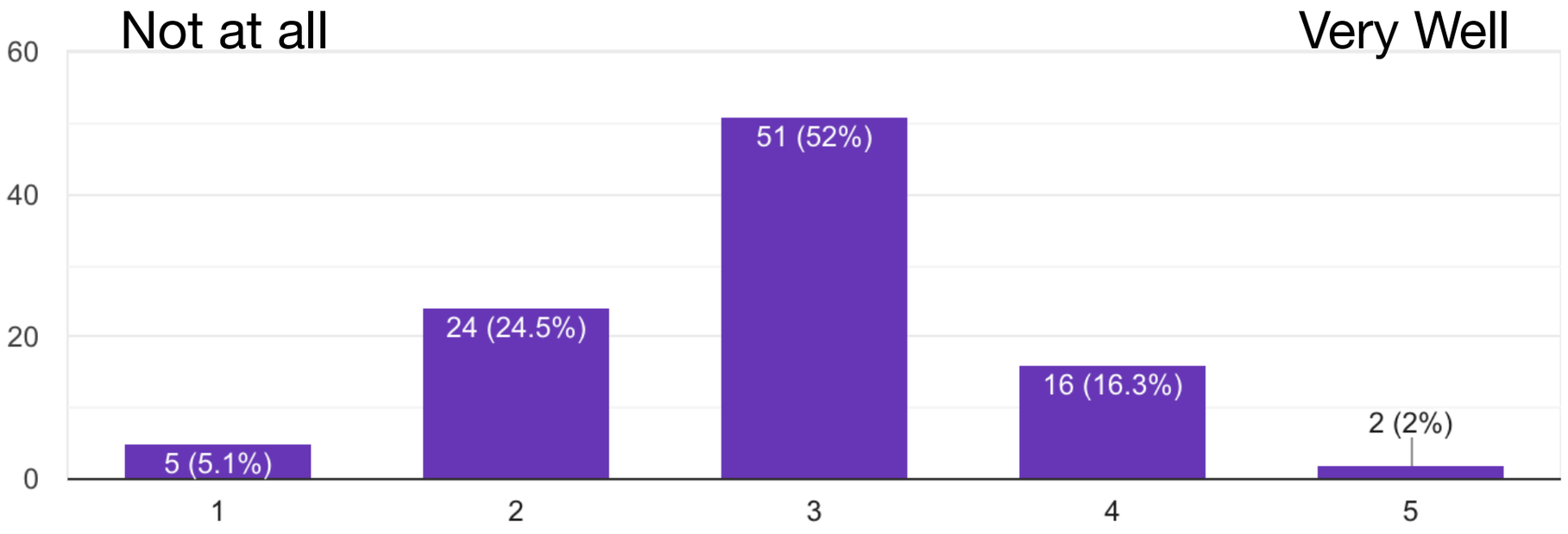
*) How well do you think we currently measure the distribution of inner radii of the torus?

97 responses



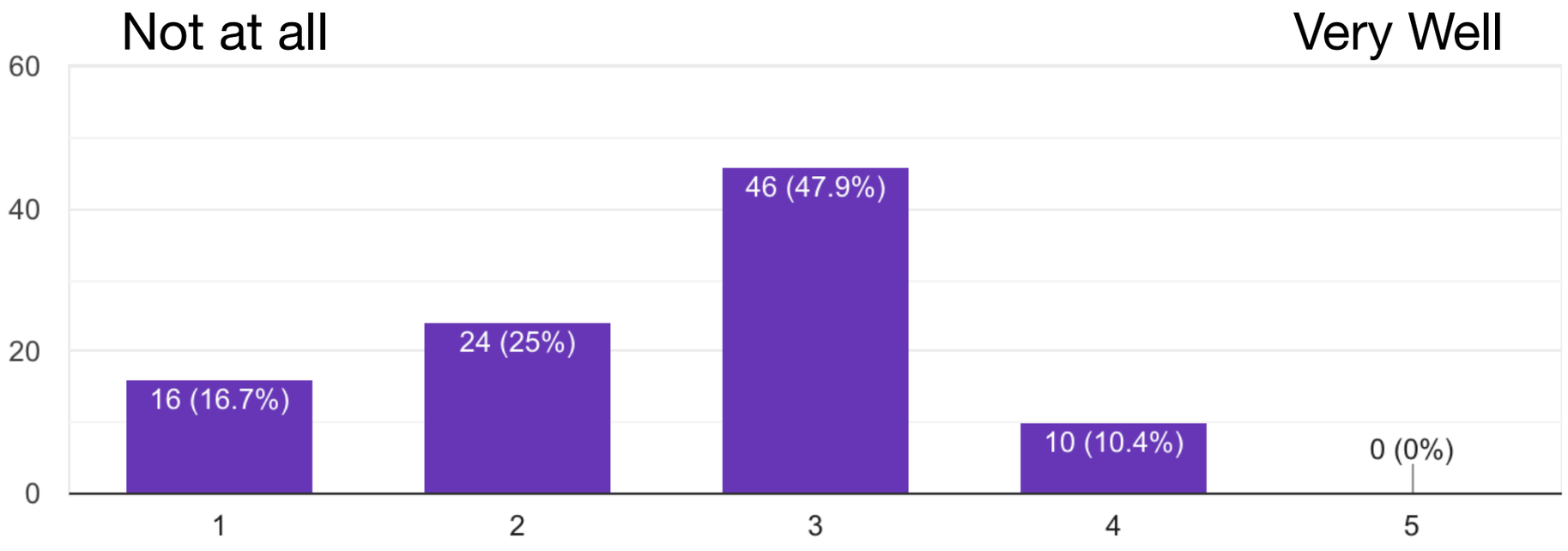
*) How well do you think we currently *model* the distribution of inner radii of the torus?

98 responses



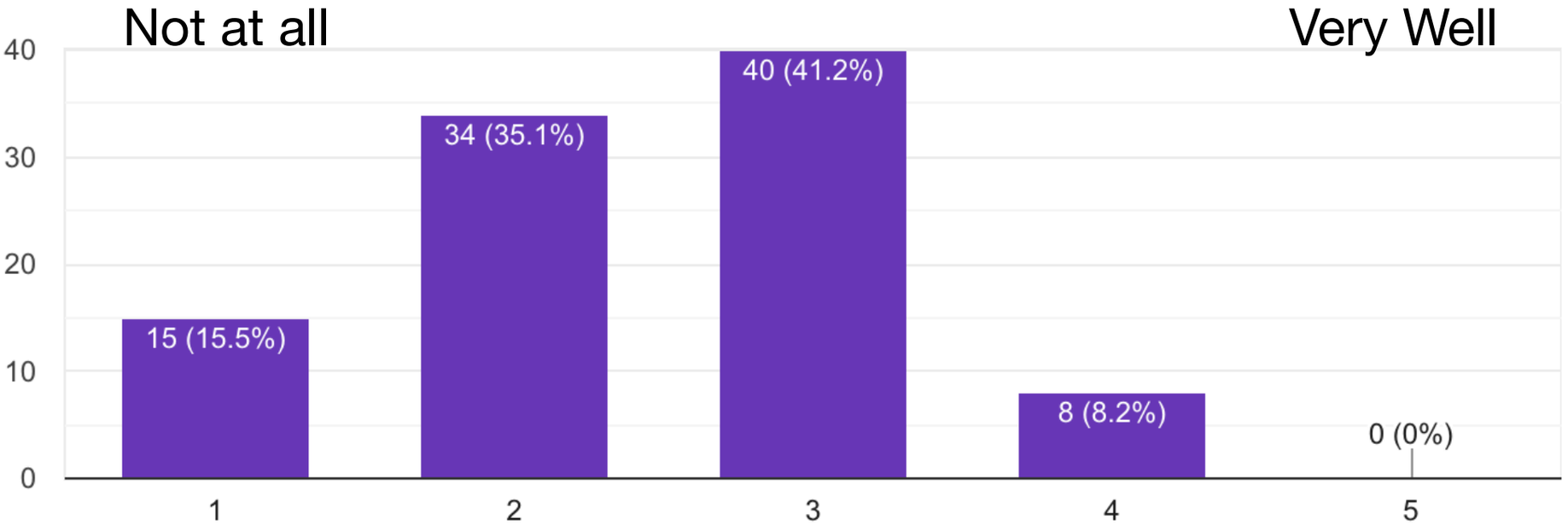
*) How well do you think we currently measure the distribution of outer radii of the torus?

96 responses



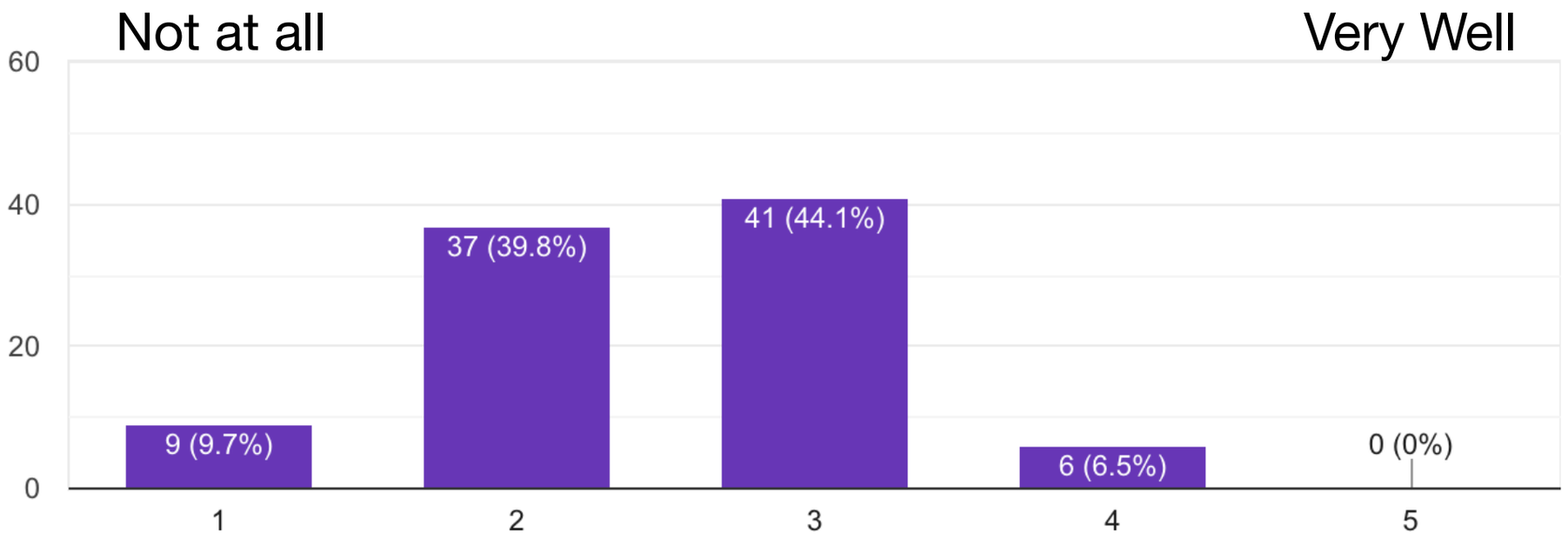
*) How well do you think we currently *model* the distribution of outer radii of the torus?

97 responses



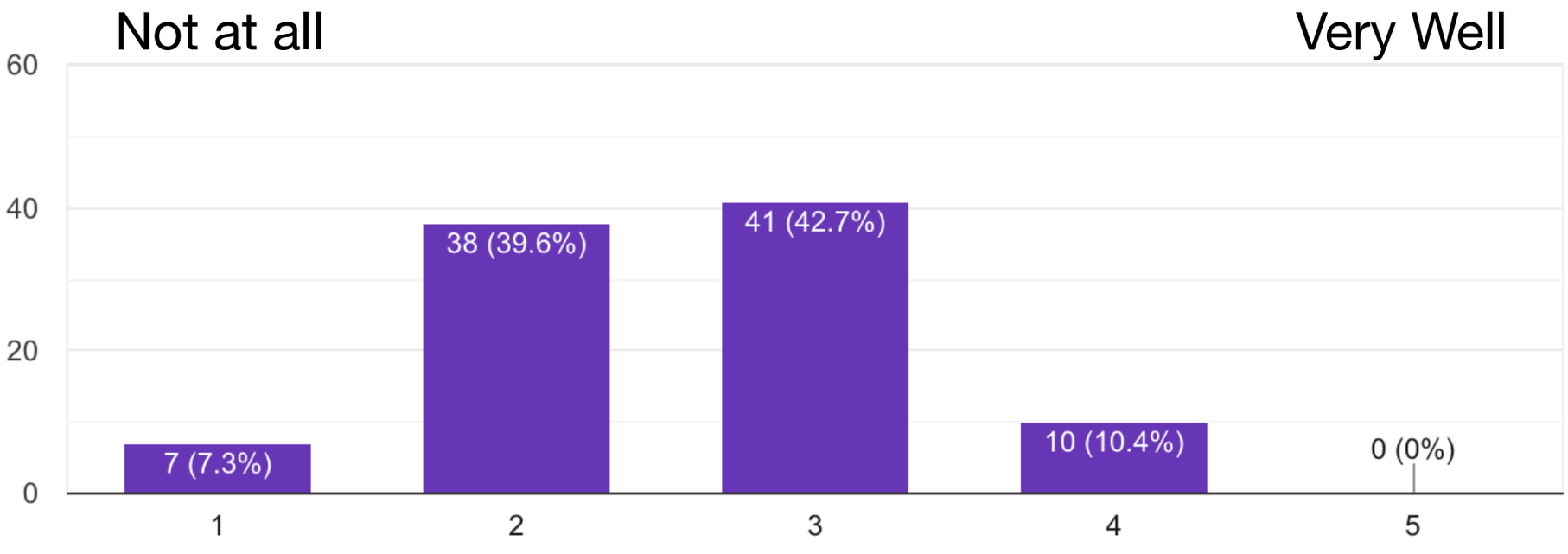
*) How well do you think we currently measure the distribution of torus shapes [H(R)]?

93 responses



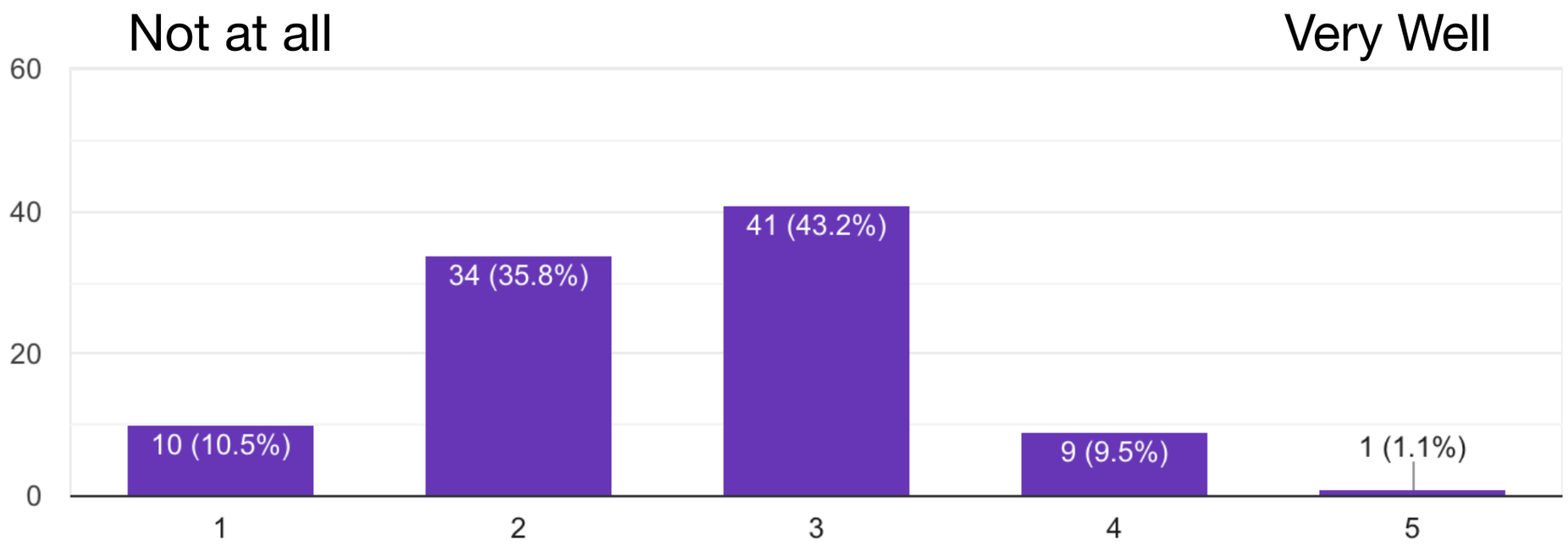
*) How well do you think we currently *model* the distribution of torus shapes [H(R)]?

96 responses



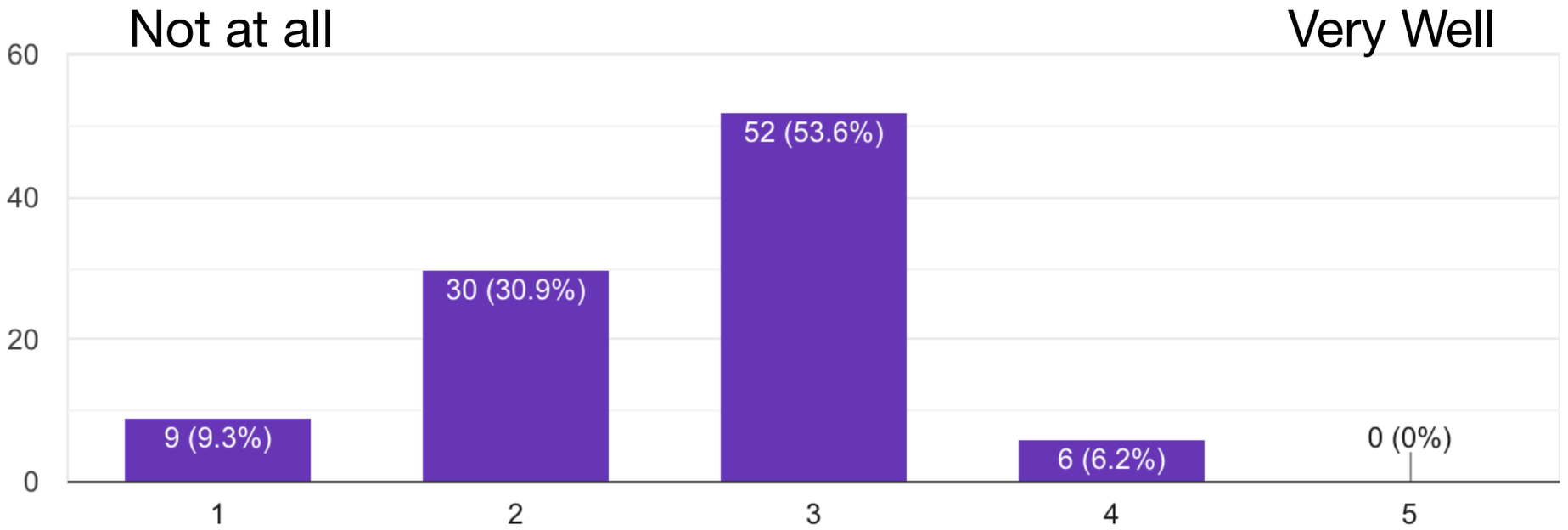
*) How well do you think we currently measure the distribution of torus total mass?

95 responses



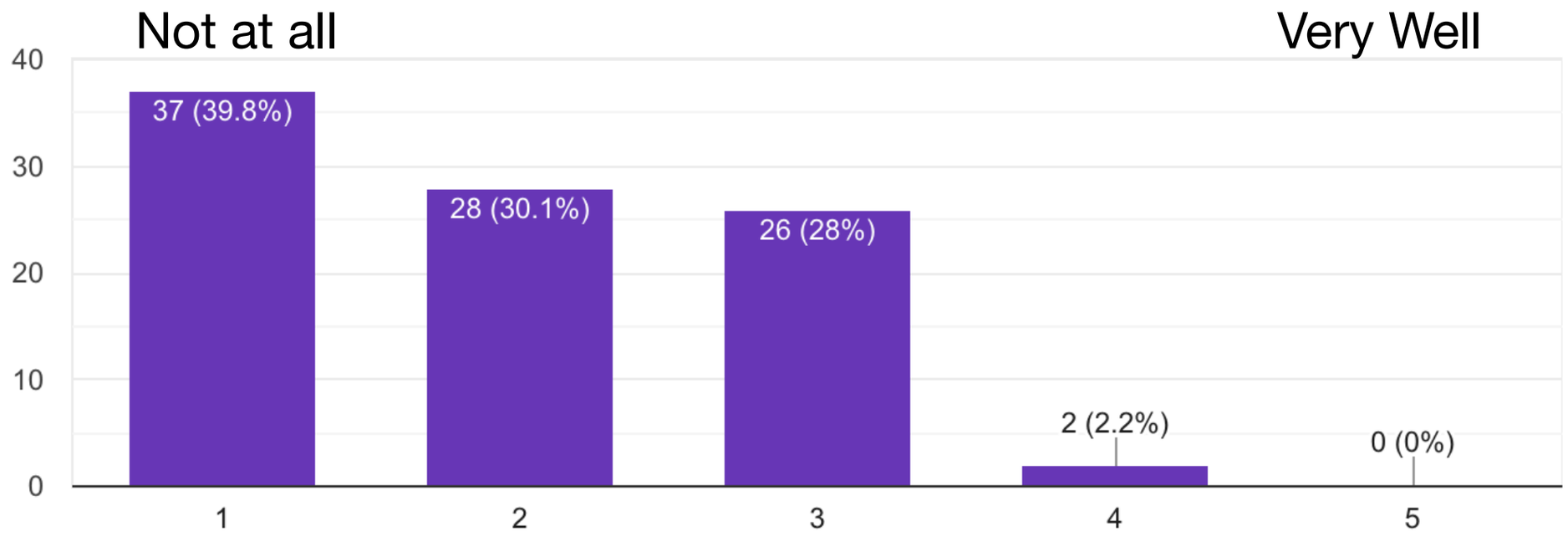
*) How well do you think we currently *model* the distribution of torus total mass?

97 responses



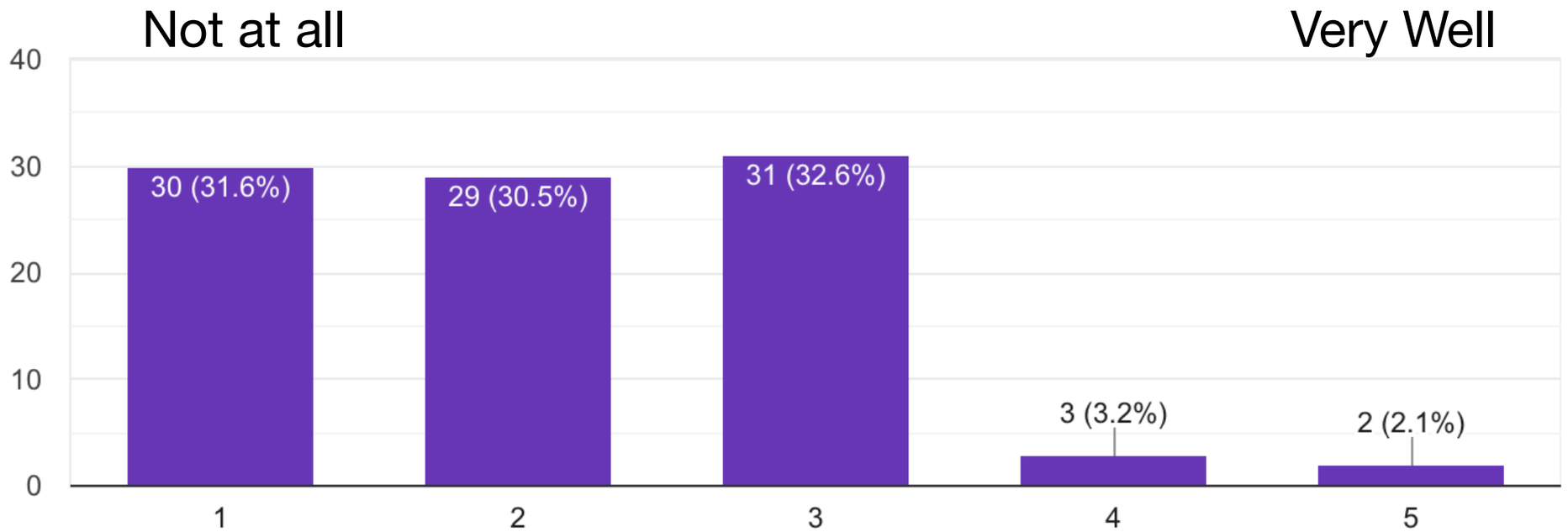
*) How well do you think we currently measure the distribution of torus large scale magnetic field?

93 responses



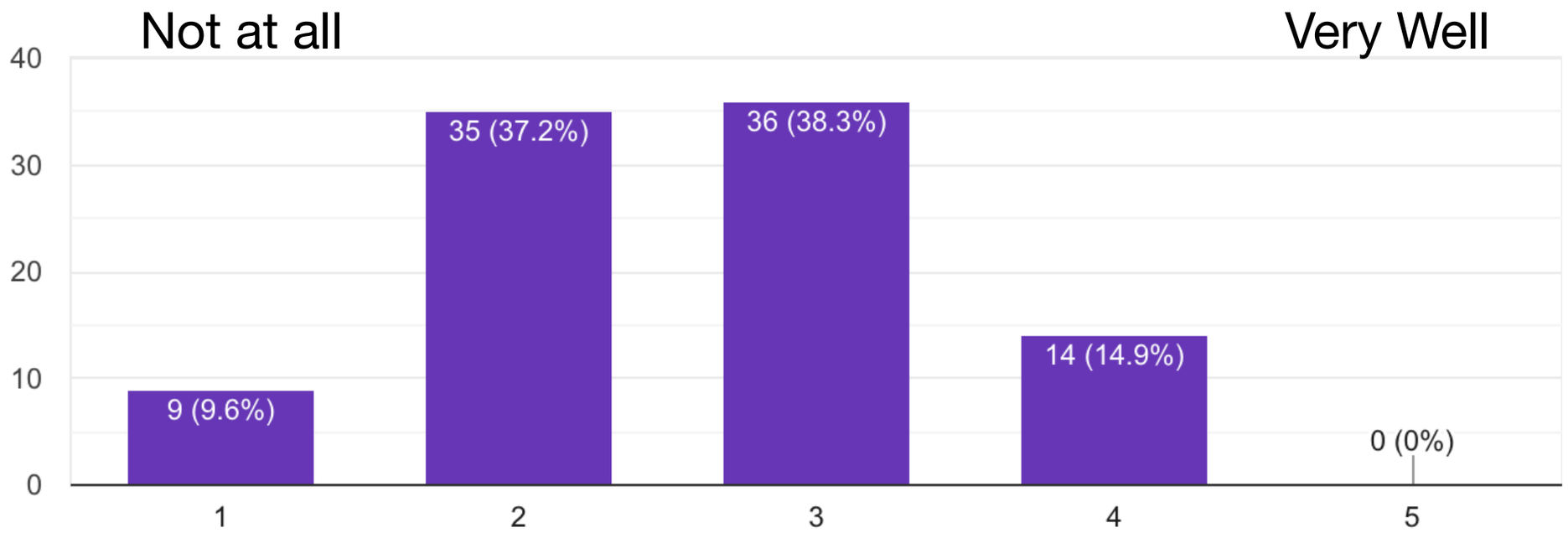
*) How well do you think we currently *model* the distribution of torus large scale magnetic field?

95 responses



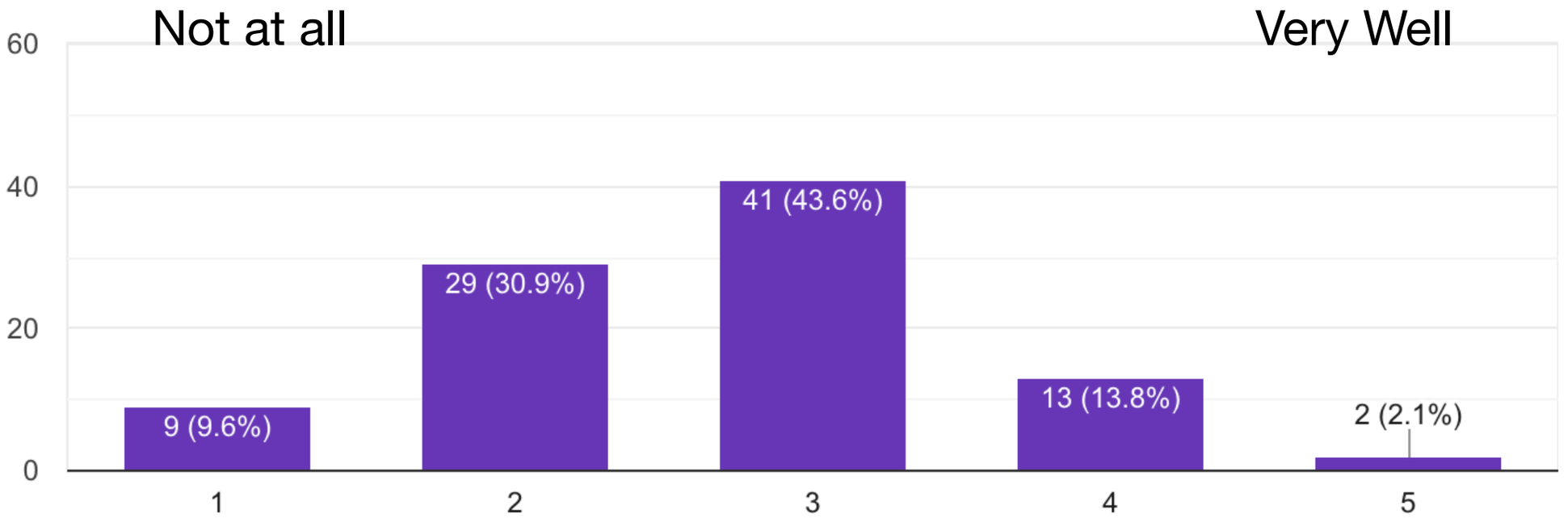
*) How well do you think we currently measure the distribution of torus dust composition?

94 responses



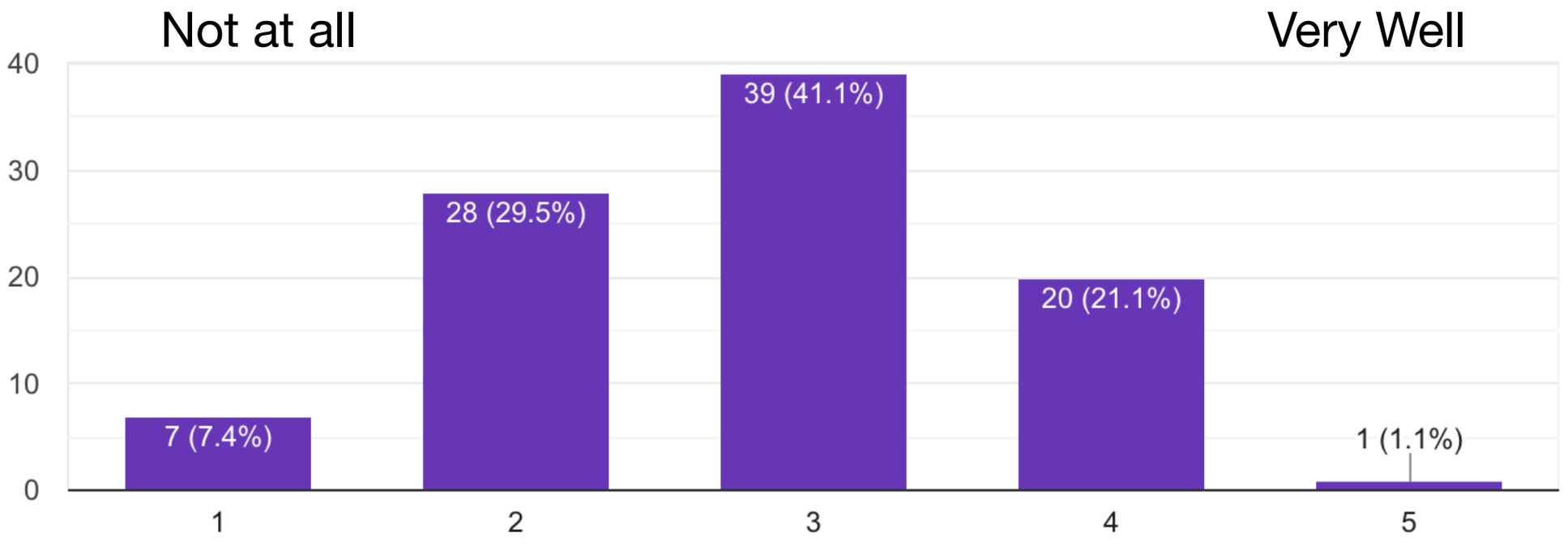
*) How well do you think we currently *model* the distribution of torus dust composition?

94 responses



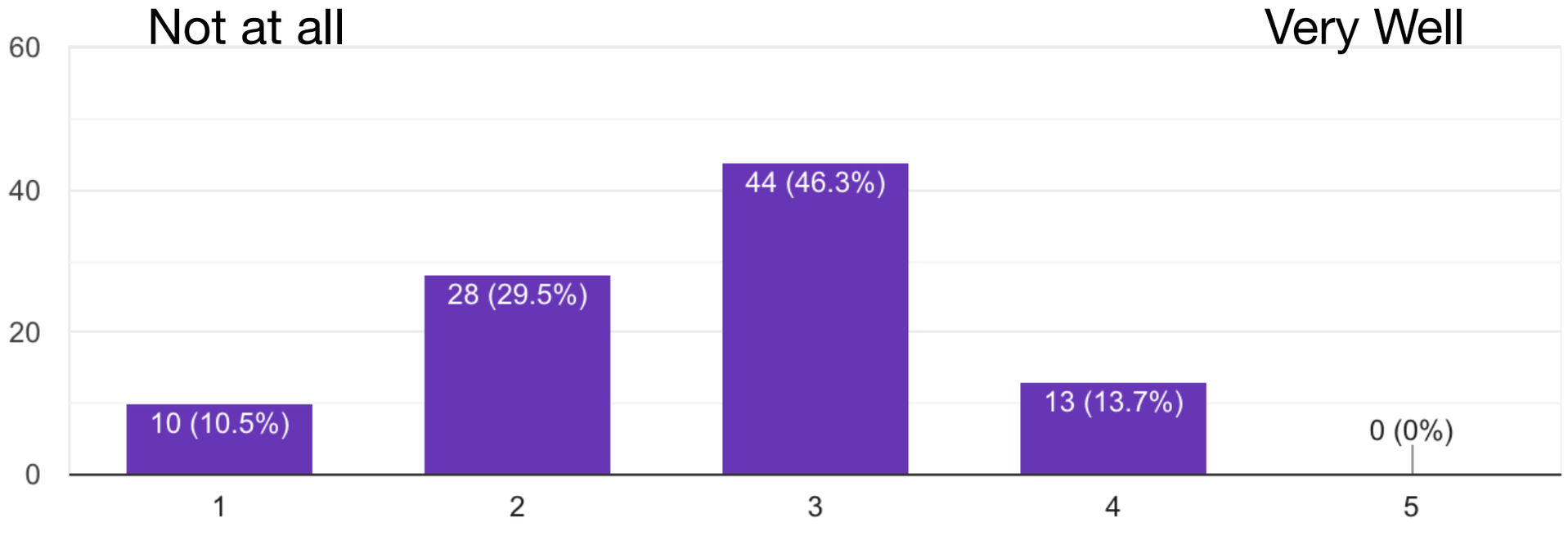
*) How well do you think we currently measure the distribution of torus molecular composition?

95 responses



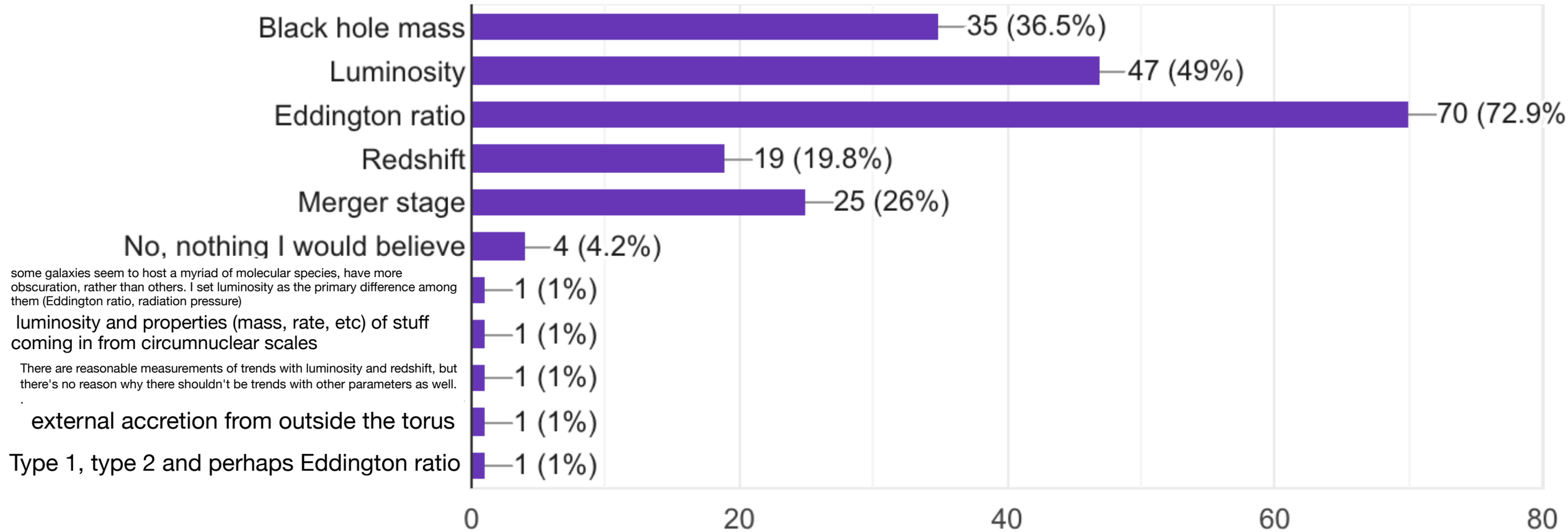
*) How well do you think we currently *model* the distribution of torus molecular composition?

95 responses



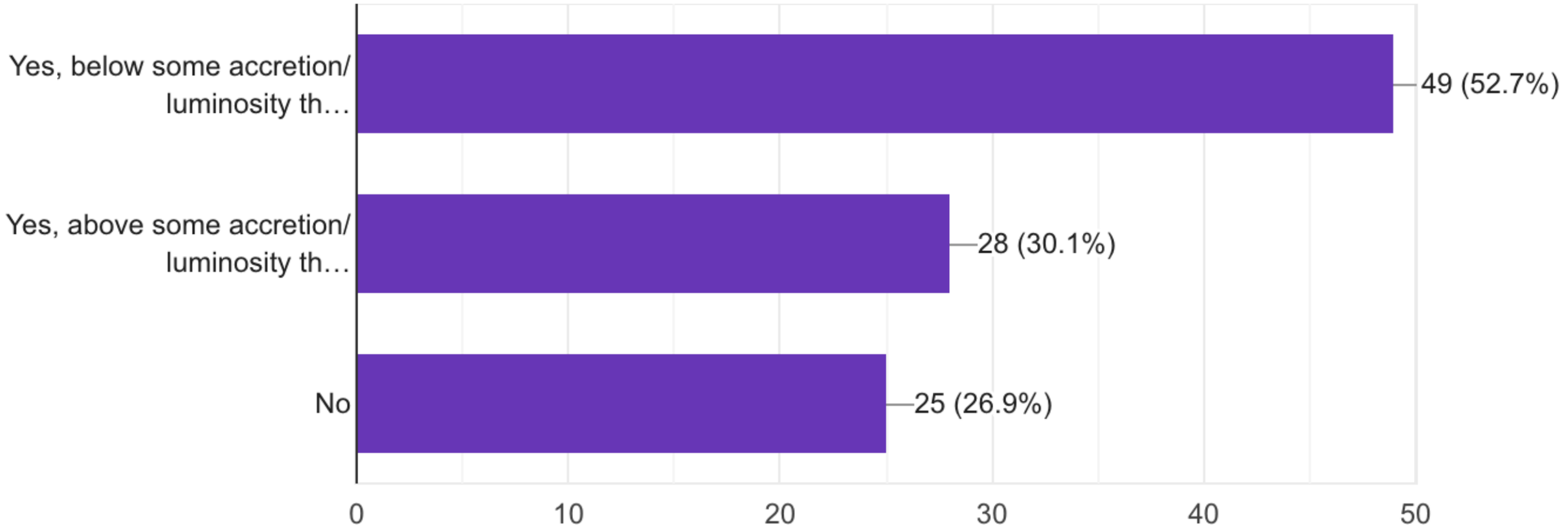
*) Do you believe that the distribution functions of the torus properties have systematic trends or evolution with...

96 responses



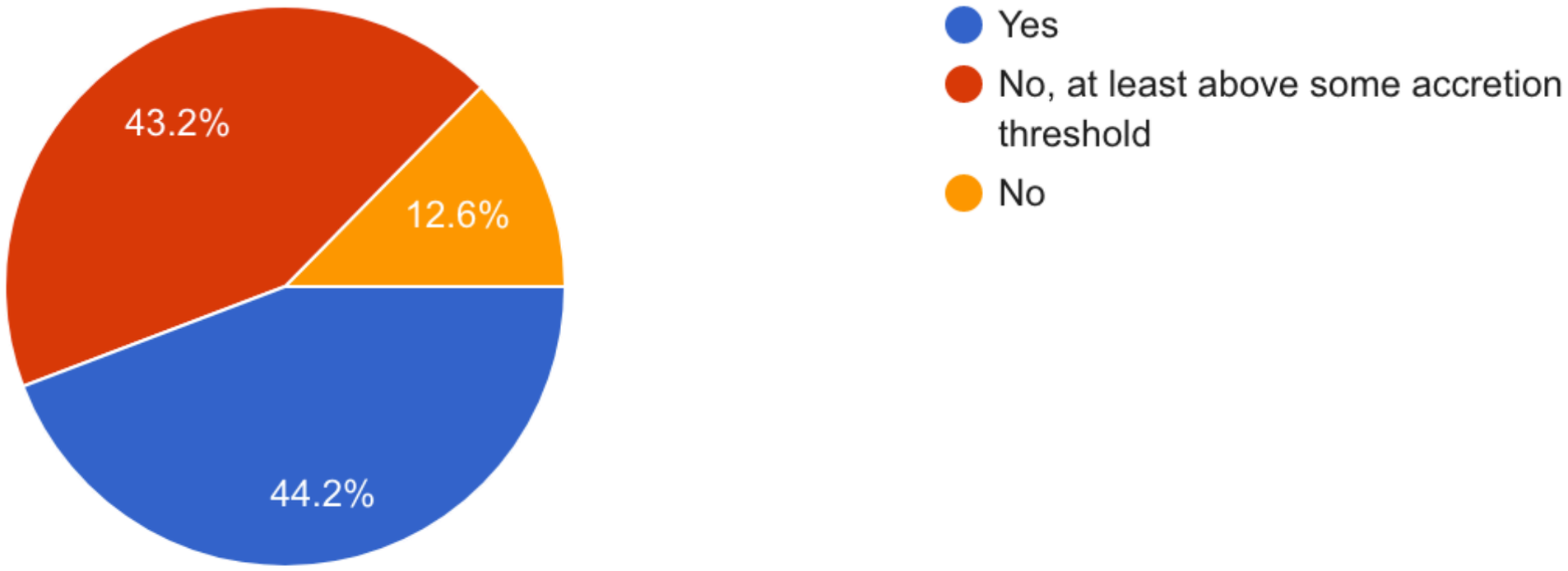
*) Are there any AGN where the torus does not exist?

93 responses



*) Are there any AGN where the broad line region does not exist ("true type 2s")?

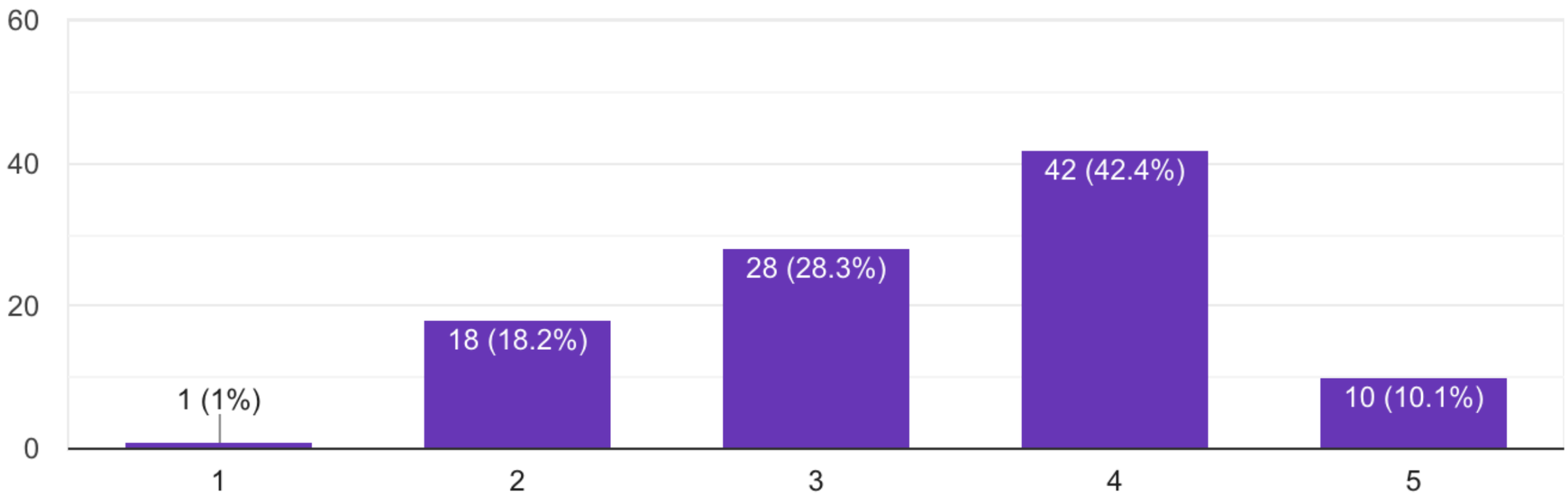
95 responses



Evolution+Parameter Space

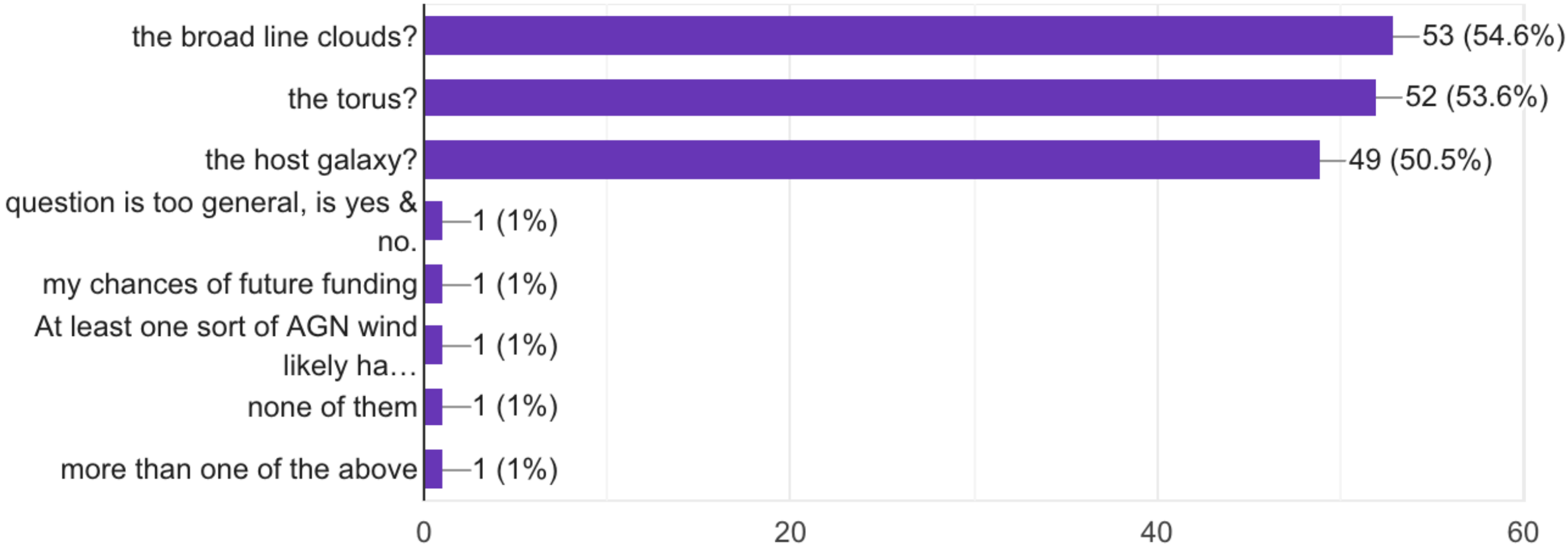
*) How closely related are the AGN activity, torus, and host properties?

99 responses



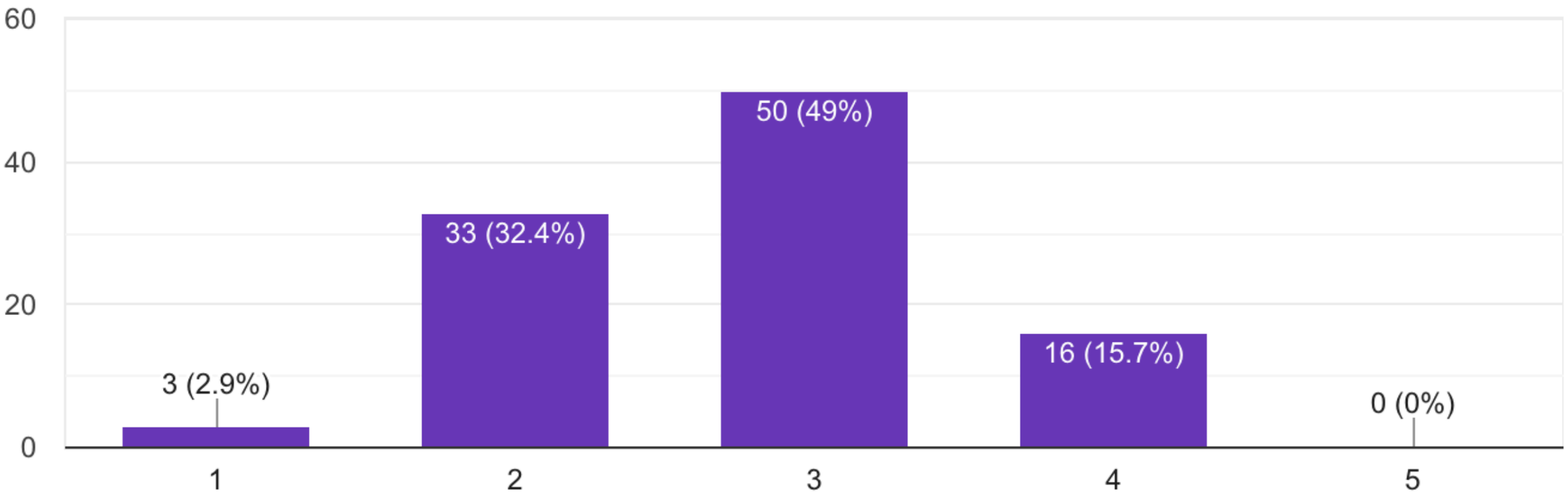
*) Do AGN winds strongly impact...

97 responses



*) How clear is it to you what the torus is and what it is not?

102 responses

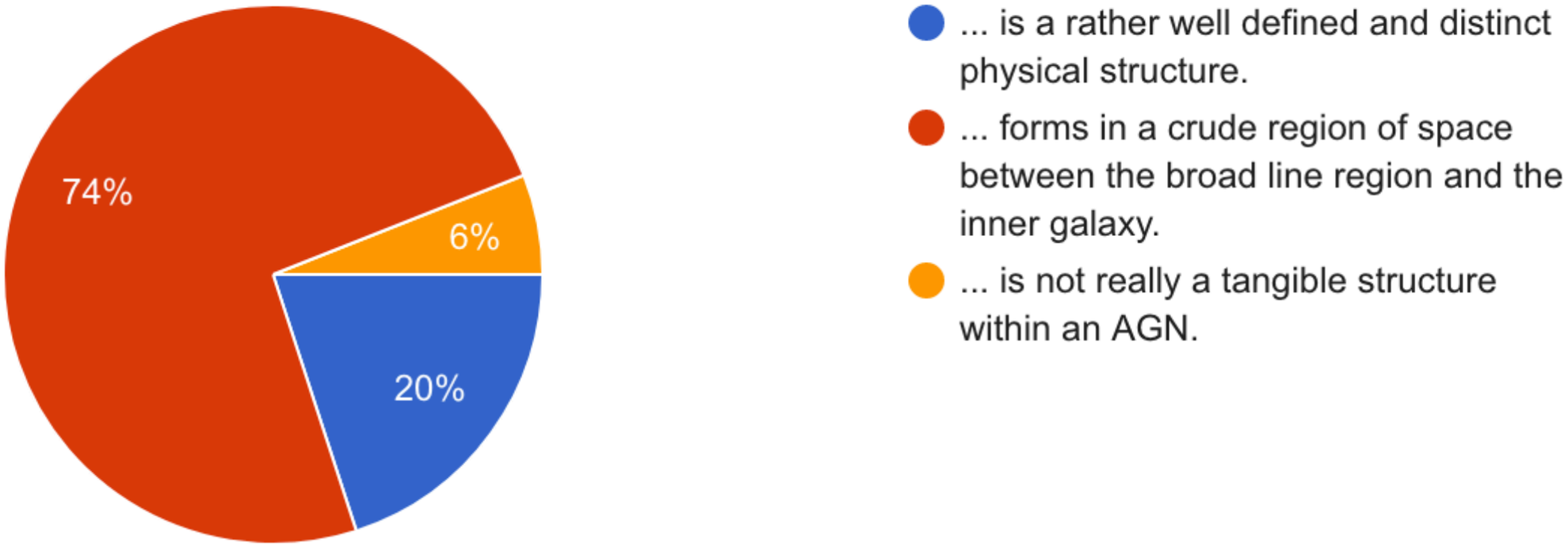


Not at all

Very Clear

*) The torus (aka the molecular & dusty obscurer on parsec scales) ...

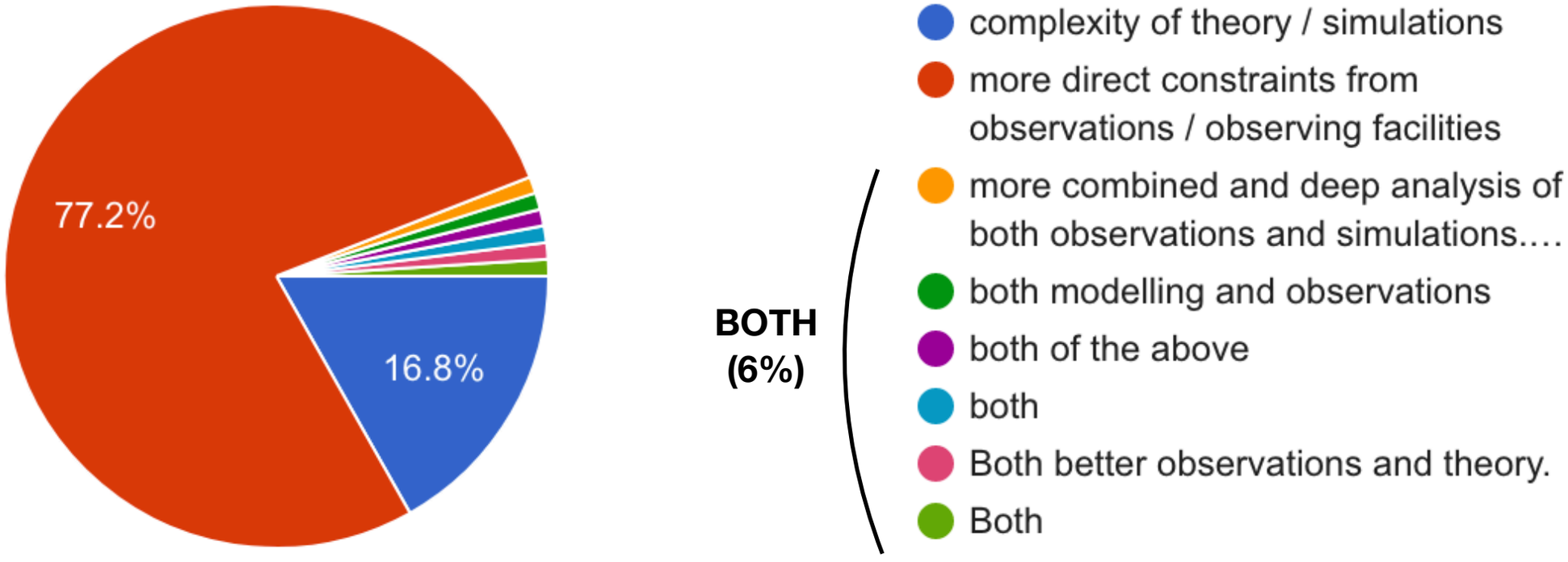
100 responses



Torus of the Future

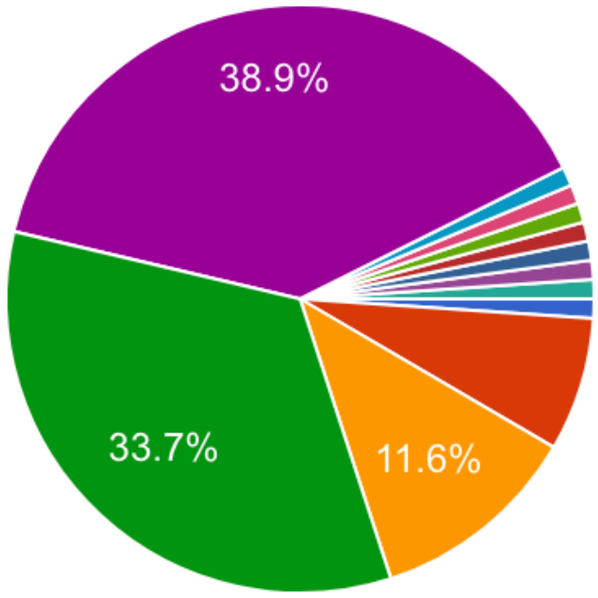
*) What are we most fundamentally lacking to advance our understanding of the torus?

101 responses



*) What do you think is the single most fundamental missing current (~3 yr window) observation that would help us better understand the torus and its environment?

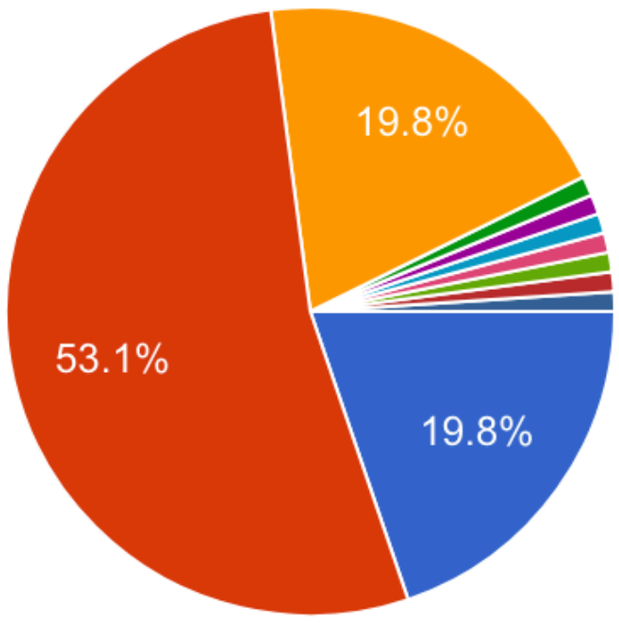
95 responses



- High sensitivity X-ray imaging on >50 pc scales
- High spectral resolution X-ray instruments
- High sensitivity IFU observations of ionisation cone structure and energetics on >1 pc scales
- High sensitivity MIR imaging on ~1 pc scales
- High sensitivity, spatially resolved molecular line kinematics on ~1 pc scales
- Simultaneous observations at different wavelengths
- near-IR VLTI measurements with GRAVITY combined with molecular kinematics on ~1pc scales
- MIR interferometry imaging on sub-pc scales
- All of the above. We need a complete picture.
- both MIR and molecular lines
- No single observation, many: IFU observations, MIR imaging, spatially resolved cold dust and molecular gas kinematics
- Near-IR imaging on 0.1-0.01 pc scales

*) What do you think is the single most fundamental missing future (~30 yr window) observation that would help us better understand the torus and its environment?

96 responses



- High sensitivity X-ray imaging on sub-pc scales
- High sensitivity MIR IFU obs on sub-pc scales
- High sensitivity, spatially resolved molecular line kinematics on sub-pc scales
- near-IR interferometry
- near-IR interferometry (GRAVITY)
- I am pessimistic until we have something to falsify
- Multi-wavelength concurrent observations.
- High sensitivity NIR imaging on ~1 pc scales
- all of the above
- N/A

*) In what direction should simulations/modeling push most? Where will the most fruitful efforts go?

98 responses