BRAMS Zoo

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27/06/2015 – BRAMS annual meeting

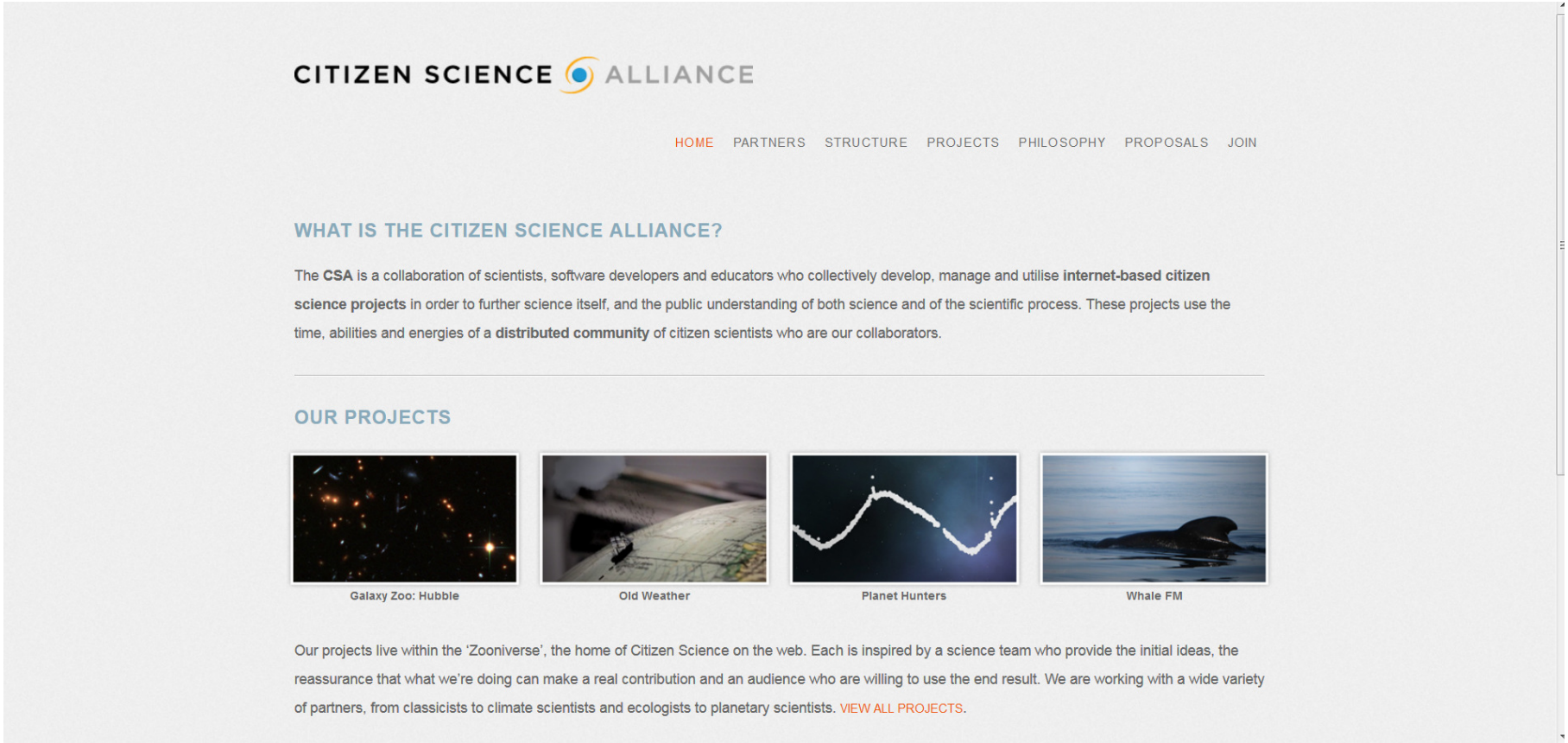
Why a BRAMS Zoo?

- Goal : to ask a large community of users to manually count meteor echoes for us

- Useful for :
  - Overdense meteor echoes (hardly correctly detected by any automatic detection method so far)
  - Assess of automatic detection methods for underdense meteor echoes

- In line with new politics (“crowdsourcing”)

Contact Citizen Science



Questionnaire to fill in to send application which is peer-reviewed

Which data to select?

- Initially focus on a few meteor showers in 2016 (more “sexy” for large public than background/sporadic meteors).
- Contains many overdense meteor echoes
- Useful for collaborations e.g. with IMCCE

Estimate of time needed

- 1 min in average per spectrogram
- 1 day of data ~ 5 hours
- Assume 3 meteor showers & 3 days each & 30 stations → 5 × 3 × 3 × 30 = 1350 hours
- 10 independent measurements on each spectrogram : 13500 hours
- 2000 users → ~ 7 hours per user
- Results within 4 weeks of the peak : 7 / 12 ~ 0.6 hour/week (reasonable).

Question is …

- Are 10 independent measurements enough to be sure to select most of the meteor echoes with a limited amount of FN/FP ?

- No easy statistical tools due to FN/FP to answer this question

- Not like Galaxy Zoo, more similar to Moon Crater Zoo

Instead …

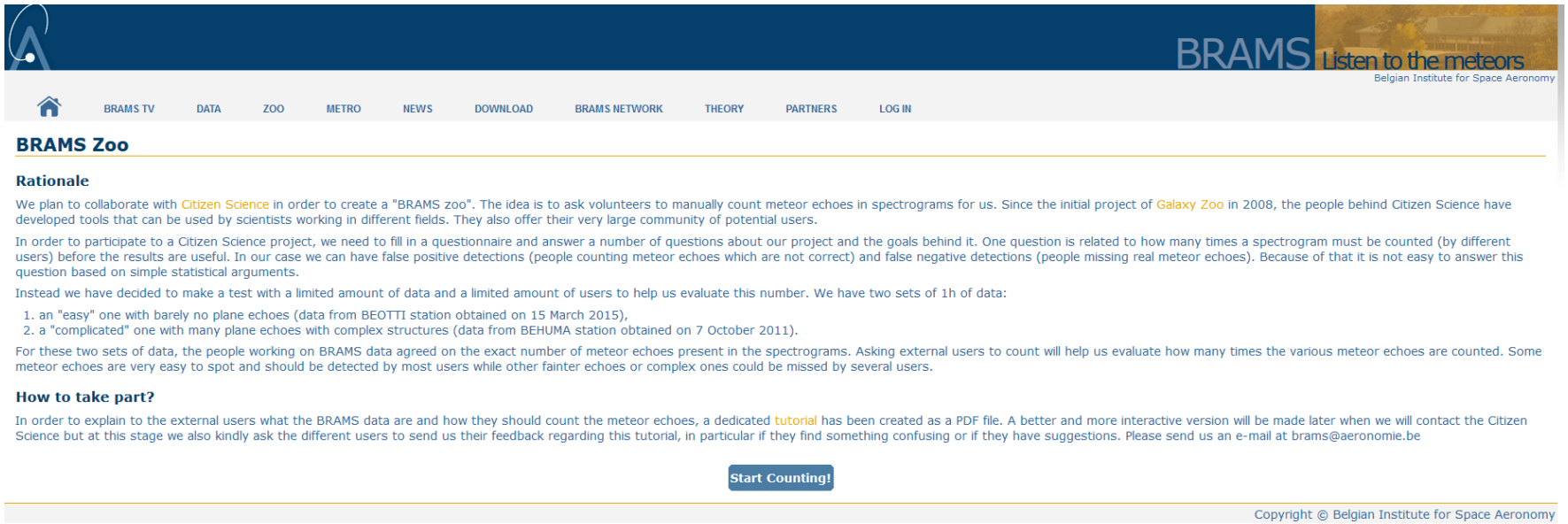
- We have selected a limited amount of data as sample tests : 2 hours (24 spectrograms), 1h of “easy” data (with very few plane echoes) & 1h of “complicated” data (with many crazy plane echoes)

- We have made a “careful” manual count of these data and tried to come to an agreement on the definition of what we want people to do for us

- We have made a tutorial for BRAMS zoo (PPT/PDF format)

- We will use sets of users as sample tests to investigate how many times a spectrogram must be sent to different users to obtain reliable counts

BRAMS Zoo on the website



Next

- Get more sample users & analyse results
- Answer question & send application to Citizen Science
- Check & possibly connect with people from Moon Crater Zoo