Discovery of runaway mini-galaxies

a VO-powered publication in Science magazine

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• Step-by-step tutorial to look for rare mini-galaxies in SDSS / GALEX / UKIDSS data
• Played for the first time
• Dozens of mini-galaxies discovered right online in front of the ADASS audience
• In total, 195 new mini-galaxies discovered (only 30 known before)
• Original instructions: goo.gl/zU7B4
VO components

- TOPCAT
- Aladin (SDSS HiPS)
- TAP to SDSS @ VizieR (beta)
- DaCHS with SSA to SDSS spectra
- VOSpec (though buggy :-\)
- Octopus
- NED (though non-VO :-\)
Isolated compact elliptical galaxies: Stellar systems that run away

- Apr 23, 2015
- First publication in interdisciplinary journal which did not use a single photon of new observations, only public data
- Pure VO
- Intensive science vs. extensive science
- ADS record
TL;DR
Wide media coverage in several countries

- National Geographic
- Discovery
- Space.com
- Engadget
- Slashdot
- Gizmodo
- ...
- radio interviews
...even TV shows
عالمًا فلك روسيا يفسران نشوء مجريات صغيرة فارقة من مجرات أكبر منها

تاريخ النشر: 25.04.2015

الفضاء

hubblesite.org

المجرات المغامرة

Uuid: 18a77f3e-90d7-4662-bd21-5f8856d77b6e

العنوان:

بالتيمر.. خارج السيطرة

والإعلان حالة الطوارئ (فيديو)

بن عمر: اليمن كان قريبا من اتفاق سياسي عشية "عاصفة الحزم"

بوريتس: روسيا قلصت سلاحها النووي إلى أدنى مستوى

دي ميسترحا يوجه دعوة رسمية لإيران لحضور (جنوف-3)
News headlines

• “Tiny and speedy homeless galaxies”
• “The Universe’s loneliest galaxies”
• “Russian astronomers discover stripped and cast out galaxies”
• “American astronomers spot runaway galaxies screaming across the Universe”
• “Cosmic threesomes make some galaxies run away”
Lessons learned from massive media campaign

- Few are excited about galaxies...
- ...but everyone is excited about the VO and a possibility to make a discovery from a home computer
- VO saves taxpayer’s money!
- Why so few authors?
Science / Nature papers

- Median number of authors: 6
- We’re only 2 in this study
- The contribution of ‘missing’ collaborators has been done by YOU (the VO)
Lessons learned from massive media campaign

• When accompanied with a scientific discovery, VO is incredibly appealing to the general public

• Democratic aspect of the VO-Science

• VO-Science: real competition of skills and ideas but not access levels to very expensive instruments
Lessons learned from massive media campaign

• Philanthropists are not against the idea of supporting “cost-efficient” fundamental science as it has virtually no spending on infrastructure

• Internet companies are excited to apply their technologies to something VO-like
Thank you all for the VO:

small research teams can now do big things