

UMkhathilibe Ephaketheni Lami



IziPhinqi kanye
nolunye uHuneba



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3C405

Kwisinxele:

IsiThombe sesiphafuko
esibengeza kakhulu
emkhathini : i-3C405.

kwesokudla:

isindandaza
sezipopolo
ezisemkha-
thini.

Idadandlovu A

umThalakazi otholakala
phakathi kwamadlebe
emanzi e3C405 futhi
equkethe isiPhinqi.

kwisinxele:

IsiPhafuko
isikhafuli
i-3C31.

kwesokudla:

i-NGC 383, umThalakazi
owumsukela wamadlebe
emanzi we-3C31.

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Ukuphakanyiswa kweziPhinqi

Yize iziPhinqi ziyi zinto ezibengeza
kakhulu kuMkhathilibe, zaphakanyiswa
eminyakeni engama-60 eyedlule nje.

Inhlabamkhosi emanzi esuka ezintweni
zomkhathi yayisiqoshiwe
ngalesasikhathi. Ngesikhathi
izimfundindalo zomkhathi zizama
ukuthola izindandazo ezihambisana
nalezi iziphafuko, zathola ukuthi izifuba
eziningi leziphafuko eziwathekile
ziqukethe izinsankanyezi ezisiluvaluva
futhi ezithi azibe kuhlaza kuhle
kwesibhakabhaka.

Umungcw i walezi izinto wakhombisa
ukuthi lezi izinto zikude kakhulu
(ngaphandle komThalakazi wethu, kude
ukudlula imiThalakazi eyayaziwa
ngaleso sikhathi) kanti futhi
zazingasizona iziNkanyezi. Zanikezwa
igama iziPhinqi (izinsankanyezi).

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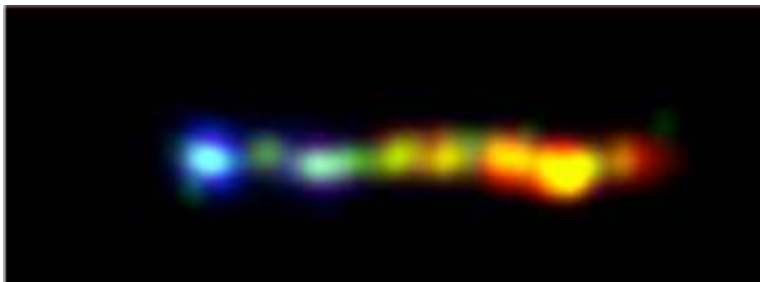
Izicaba, iziShwila kanye neminye imumo

Ngezipopolo zeHubble, izimfundindalo zikwazi ukubona iminingilizo engabonakali ngezipopolo ezisemhlabeni. Sesikwazi ukuhlukanisa izimo zemThalakazi lapho kusuka khona iziShwila.

Izicaba ezinothuli zibonakala ezifubeni zalezo ezisemaduze. Kokunye, 'iziShwila' zibonakala kwisokhanya zikhomba makude kunomnyombo womThalakazi Izipopolo zexamagu zikhombisa ukuthi iziPhinqi kanye nemThalakazi ezihlobene nayo ziyizixamago eziqhakaka kakhulu.

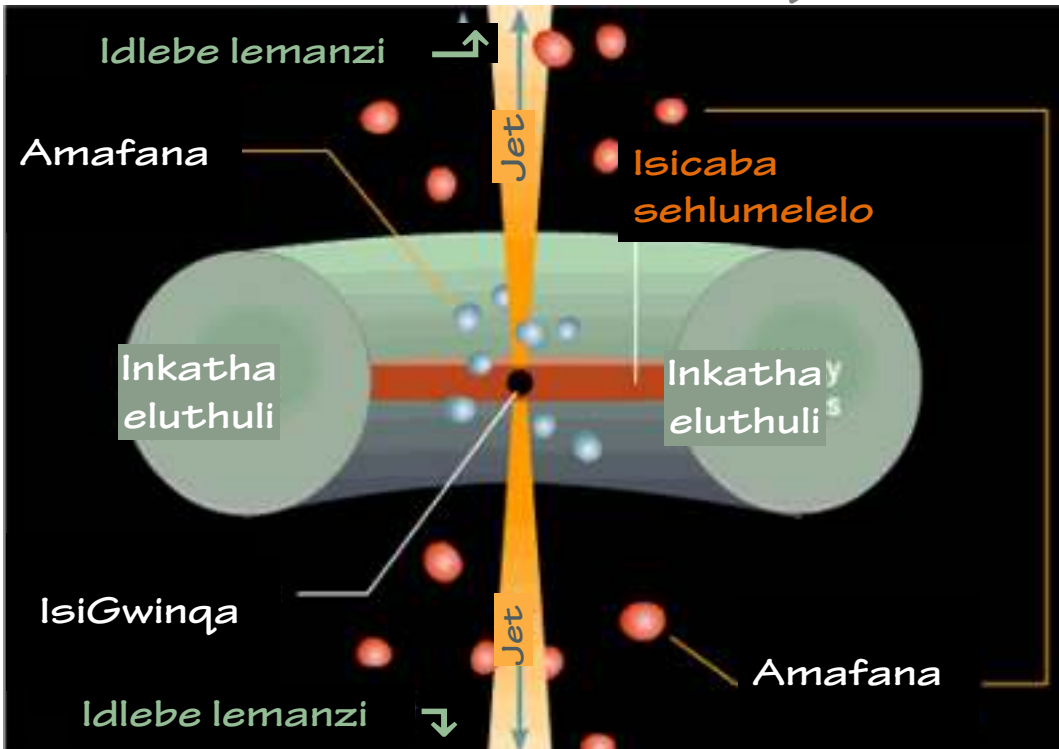
Okwamanje, izimfundindalo seziphakamise iningi lezinto ezinezimo ezifanayo ncamashi neziPhinqi kodwa ezingakhafuli emagagasini emanzana. Lezi bazibiza ngeziphinqiduli.

Iklubo leNGC 4261. Kwisinxele: Amadlebe emanzi (200,000 kwikhanyabanga ubude) awolintshi umbala kanye nomThalakazi osindandaza embalweni omhlophe. Kwesokudla: isiThombe esithwetshulwe iziPopolo i-Hubble sesifuba esikhombisa isicaba sothuli esingama-400 kwikhanyabanga ububanzi.



Iklubo lesishwila i-3C273 (izi-100,000 kwikhanyabanga ubude) kwixamagu (oluhlaza), kwisokhanya (hlaza) nakwinsibomvu (bovu) ngezipopolo zeChandra, iHubble, kanye neSpitzer.

Umhlahlelo wesiPhinqi



IsiGwinqa esikhulu (ububanzi obu-1 kumjijibe wehora) ingungwe isicaba esihshisayo (radius 1 kumjijibe wenyanga) esivuthela isiGwinqa. isicaba sikhafula imiyonzi edushulana namafana.

Isicaba sixhumene neNkatha eluthuli, eyi-1 000 kumjijibe ububanzi. lapho sibukwa kunqenqema, isicaba sehlumelo asibonakali. iziSwhila zezinhlayiyane ezisuka kwisiGwinqa, zihesheka kwisicaba. Ziphelela kumadlebe lemanzi, alinganiselwa kwisigidi kumjijibe ubukhulu.

Ukusebenza kweziPhinqi

Ngokujwayelekile, iziPhinqi zikhafula impekumpeku elinganiselwe kuleyo ekhafulwa imiThalakazi eyi-1 000 kumzuzwana, endaweni encane ukudlula umThalakazi cishe isigidi ngokuphindeka. kwenzeke kanjani lokhu? kuyacaca ukuthi umsuka walomyonzi akusiyo iNkanyezi. Sekuyavumelwana manje ukuthi iziPhinqi ziqukethe kumsuka wazo iziGwinqa ezinkulu, ezidonsa utho oluseduze kwazo. Ngaphambi kokungena kwisiGwinqa, utho luyashwilekela 'kwisicaba sehlumelo', lapho khona lushisiswa emazingeni aphezulu okushisa, bese lukhiqiza ukukhanya kuzwikhwithi kanye nakwixamagu. IziGwinqa ezinkulu zikhanya kakhulu. Lokhu ukukhanya kushayisana nomoya ongunge iziGwinqa, bese kuqhikizeka umungcwi obonakala kuphela kwiziPhinqi.



Esingakuqondisisi

Kusa nemibuzo eminingi ngeziPhinqi edinga izimpendulo.

Mhlawumbe umubuzo obaluleke kakhulu ukuthi ngabe zadaleka kanjani iziPhinqi ezinkulu kakhulu.

IziPhinqi zibaneka kakhulu ngalendlela yokuthi zikwazi ukuhlongeka zikude kakhulu kanti futhi ukukhanya okusuka kuzona kuthatha isikhathi eside ukuthi kufike kuthina. Ukukhanya esikuthola kuqhamuka kwesikude kakhulu, i-ULAS J1120+0641, kwakhafulwa eminyakeni eyizigidi ezama-800 emva kokudaleka komKhathilibe.

Kunezigameko ezimubalwa ezizama ukuchaza ukuthi isiGwinqa esinesisindo esiphindeke izigidigidi ezimbili kweseLanga sasingadaleka kanjani ngokushesha emva kokudaleka komKhathilibe.

Ukuzama ukuthola iziPhinqi ezikude kuwumsebenzi obalulekile futhi onzima.

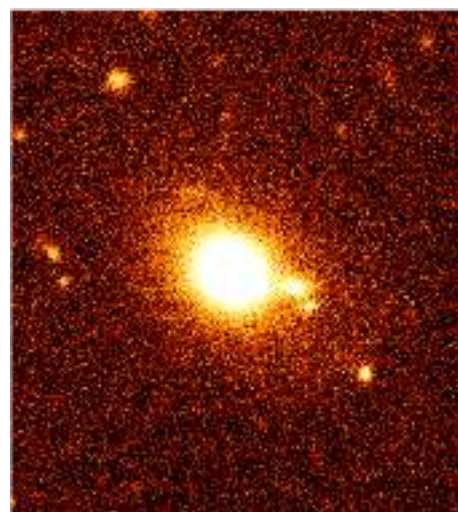
Lesi isiThombe sakhiwe ngesangulo esithathwe geziPopolo iSloan Digital Sky Survey kanye ne- UKIRT Infrared Deep Sky Survey.

Savumela ukuphakanyiswa kwesiPhinqi esikude kunazo zonke ezaziwayo, isiPhinqi i-ULAS J1120+0641 (lelichashaza elibovu elincalala elikhonjwe imigqa emibili emhlophe). Umubala kuphela ohlukanisa phakathi kwesiPhinqi kanye nezinye izikhafula kukhanya, iningi lazo okuyiziNkanyezi kumThalakazi wethu. 8



INGC 1068, enye yemThalakazi eyachazwa uSeyfert ngo-1943 manje osuyindinganiso yemThalakazi enenuzi engqangqashiya, uhlobo lwesiphinqana.

Isindandaza se-Arp220, umThalakazi obengezela kakhulu kwinsibomvu. ukukhanya okuningi kugwinqwa uthuli bese kukhaphulwa kwinsibomvu. i-Arp 220 iqukethe igaga lomsuka okhafula kwiximagu.



Isithombe sesiMbehe iHO323+022 esithwetshulwa iziPopolo i-ESO NTT. IsiThombe singamiswe ukukhanya okusuka kwisiMbehe, okukhomba ngakumbuki.

Olunye uHuneba

Ngaphambi kokuphakanyiswa kweziPhiqi, sase sivele sazi ukuthi eminye imiThalakazi inemisuka ebengezela kakhulu kanti futhi enemivange engajwayelekile. ImiThalakazi efana nalena yaqanjwa ngokuthi amaSeyfert. Ayingxenye 'yemiThalakazi enomuNyombo', okufaka kuyo iziPhiqi kanye neziMbehe.

Khona nje, ubuko lomkhathi kwinsibomvu lwakhombisa ukuthi kunenani lemiThalakazi ebengezela kakhulu kwinsobomvu kodwa engabonakali nhlobo kwisokukhanya. Iningi la lemiThalakazi kucatshangwa ukuthi liqukethe imiNyombo.

UmThalakazi
omkhulukazi olupesi
iNGC 4889, oqukethe
isiGwinqa esikhulukazi
(onesisindo esiphideke
isigidigidi kweseLanga)
Kungase kube
isiPhinqigidi.

IziPhinqi kuMkhathilibe

iziMfundindalo zomkhathi zicabanga ukuthi yonke imiThalakazi iqukethe inguzunga yesiGwinqa. ImiThalakazi kungase kwenzeke ukuthi ishintsha phakathi 'kwesithongabusika' nezikhathi 'zobukhuphekhuphe' obukhulu lapho khona isiGwinqa sigwinqa utho oludlula noma oluseduze kwaso.

Uqukethomagama lweziPhinqi olususelwa kubukomkhathi kwisokukhanya luquketheizinto cishe eziyizi-300, 000. Yize sekunezigidi zalezo izizinto ezilindele ukuqinisekiswa ukuthi ziyiziPhinqi kanti futhi ziningi ezizayo ezizophakanyiswa uhlolomkhathi lakusasa.

Ngoba iziPhinqi zibengezela ngokwemvelo yazo, imvange yazo ivumela ukuthi sikwazi ukuhlola utho olukude kuzo kuyofika kunqenqema lomKhathilibe.

Imibuzo

Ziyini lezi
iziQumbu?

Izimpendulo zikwi-
overleaf

IsiThombe somThalakazi
iNGC 1277 oqukethe
isiGwinqa esikhulukazi
esithathwe kwiHST

IsiQumbu kuBhavu
ongenaklutho

Indlela umdwebi
acabanga ngayo
indle engunge
isiGwinqa esikhulukazi
iNGC 3783

Inkatha eluthuli
equkethe evuthelisa
isiGwinqa esitholakala
kuMnyombo
womThalakazi iNGC
4261 eyayibukwe
ngezipopolo
zomkhathi iHubble

IsiThombe
somThalakazi iNGC
7049 esikhombisa
imizila yothuli
eyizindilingas
sithwetshulwe iHST

UmKhathilibe Ephaketheni Lami No. 6

Le Ncwajana ilotshwe ngonyaka wezi-2016 ilotshwa nguGrażyna Stasińska waseParis Observatory (France) yaseiningilizwa nguStan Kurtz wase-UNAM Radio Astronomy Institute in Morelia (eMexico)

IsiThombe esisekhaveni: Iklubo lomThalakazi omkhulukazi olepesi iNGC 5532 (oluhlaza sasibhakabhaka) kanye neziShwila zesikhafuli i-3C296 (obomvu). Imap yemanzi yakhiwe ngesangulo soyaca lwezipopolo esikhulukazi iVLA. ezinye izithombe kule Ncwajana zithathelwe kwizipopolo i-HST, CXC, SAO, Spitzer and UKIRT.



Ukufunda kabanzi ngalolu uchungechunge kanye nezihloko ezethulwe kuleNcwajana, sicela uvakashele u-

<http://www.tuimp.org>

Ihumushwe: Nhlanhla Mbambo

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