UMkhathilibe Ephaketheni Lami

IziPhinqi kanye nolunye uHuneba

TUIMP No. 6

Grażyna Stasińska
Paris Observatory

Imibuzo

Ziyini lezi iziQumbu?

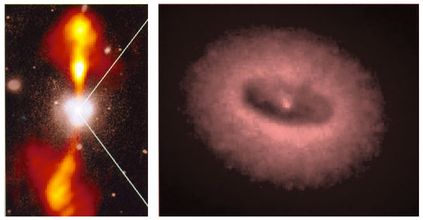
Izimpendulo zikwi-overleaf

IziPhinqi kuMkhathilibe

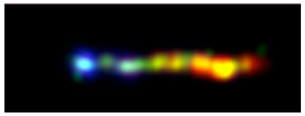
iziMfundindalo zomkhathi zicabanga ukuthi yonke imiThalakazi iqukethe inguzunga yesiGwinqa. ImiThalakazi kungase kwenzeke ukuthi ishintsha phakathi 'kwesithongabusika' nezikhathi 'zobukhuphekhuphe' obukhulu lapho khona isiGwinqa sigwinqa utho oludlula noma oluseduze kwaso.

Uqukethomagama lweziPhinqi olususelwa kubukomkhathi kwisokukhanya luqukethe izinto 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.



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.

Izicaba, iziShwila kanye neminye imumo

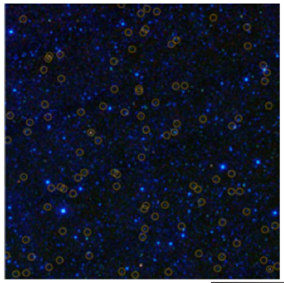
Ngezipopolo zeHubble, izimfundindalo zikwazi ukubona imininingizo engabonakali ngezipopolo ezisemhlabeni. Sesikwazi ukuhlukanisa izimo zemThalakazi lapho kusuka khona iziShwila.

Izicaba ezinothuli zibonakala ezifubeni zalezo ezisemaduze. Kokunye, 'iziShwila' zibonakala kwisokhanya zikhomba makude kunomnyombo womThalakazi

Izipopolo zexamagu zikhombisa ukuthi iziPhinqi kanye nemThalakazi ezihlobene nayo ziyizixamago ezighakaka kakhulu.

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

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



Uhlolomkhathi kwinsibomvu selathola izigidi zezinto ekungenzaka ukuthi zibe iziPhinqi. kulesi isiThombe lokhu okungase kube iziPhinqi kuzingelezwe ngombala ophuzu.

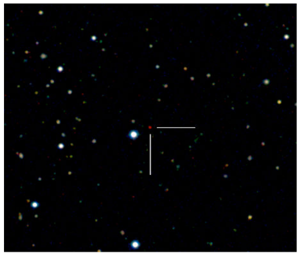
Esingakuqondisisi

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.

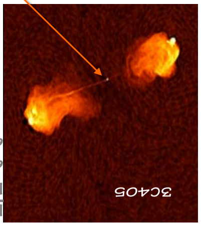
Kunezigameko ezimubalwa ezizama ukuchaza ukuthi isiGwinqa esinesisindo esiphindeke izigidigidi ezimbili kweseLanga sasingadaleka kanjani ngokushesha emva kokudaleka komKhathilibe.



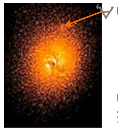
Ukuzama ukuthola iziPhinqi ezikude kuwumsebenzi obalulekile futhi onzima.

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

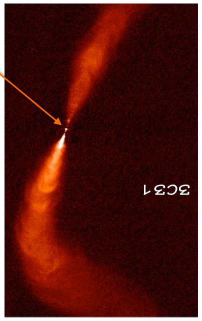
Savumela ukuphakanyiswa kwesiPhinqi esikude kunazo zonke ezaziwayo, isiPhinqi i-ULAS J1120+0641 (lelichashaza elibovu elincalala elikhonjwe imigqa emibili emhlophe). Umubala kuphela ohlukanisa phakathi kwesiPhinqi kanye nezinye izikhafula kukhanya, iningi lazo okuyiziNkanyezi kumThalakazi wethu.



Kwisinxele: IsiThombe sesiphafuko esibengeza kakhulu emkhathini : i-3C405.



kwesokudla: isindandaza sezipopolo ezisemkhathini. Idadandlovu A umThalakazi otholakala phakathi kwamadlebe emanzi e3C405 futhi equkethe isiPhinqi.



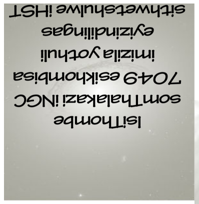
kwisinxele: IsiPhafuko isikhafuli i-3C31. kwesokudla: i-NGC 383, umThalakazi owumsukela wamadlebe emanzi we-3C31.

Indlela umdwebi acabanga ngayo indle engunge isiGwiqa esikhulukazi iNGC 3783

IsiThombe somThalakazi iNGC 1277 oqukethe isiGwinqa esikhulukazi esithathwe kwiHST

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

IsiQumbu kuBhavu ongenaklutho



IsiThombe somThalakazi iNGC 7049 esikhombisa imizila yothuli eyizindilingas sithwetshulwe iHST

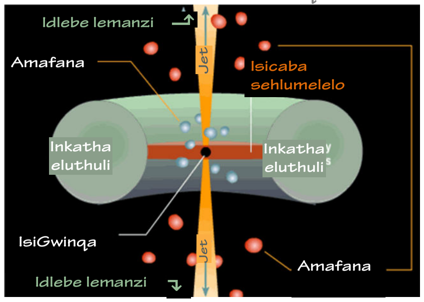
Ukuphakanyiswa kweziPhinqi

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.

Umungcwi 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).

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-1000 kumjijibe ububanzi. lapho sibukwa kunqenqema, isicaba sehlumelo asibonakali.

iziShwila zezinhlayiyane ezisuka kwisiGwinqa, zihesheka kwisicaba. Ziphelela kumadlebe lemanzi, alinganiselwa kwisigidi kumjijibe ubukhulu.

Ukusebenza kweziPhinqi

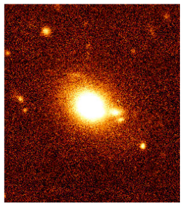
Ngokujwayelekile, iziPhinqi zikhafula impekumpeku elinganiselwe kuleyo ekhafulwa imiThalakazi eyi-1000 kumzuzwana, endaweni encane ukudlula umThalakazi cishe isigidi ngokuphindeka. kwenzeke kanjani lokhu? kuyacaca ukuthi umsuka walomyonzi akusiyo iNkanyezi.

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.

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 kukhafulwa kwinsibomvu. i-Arp 220 iqukethe igaga lomsuka okhafula kwiximagu.



Isithombe sesiMbehe iH0323+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.

UmKhathilibe Ephaketheni Lami No. 6

Le Ncwajana ilotshwe ngonyaka wezi-2016 ilotshwa nguGrażyna Stasińska wasеParis Observatory (France) yase iningilizwa 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

TUIMP Creative Commons
BY NC SA