

# UMkhathilibe Ephaketheni Lami



IziPhinqi kanye  
nolunye uHuneba



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3C405

Kwisinxele:

IsiThombe sesiphafuko esibengeza kakhulu emkhathini : i-3C405.

kwesokudla:

isindandaza sezipopolo ezisemkhathini.

Idadandlovu A,

umThalakazi otholakala phakathi kwamadlebe emanzi e3C405 futhi equkethe isiPhinqi.



3C31

kwisinxele:

IsiPhafuko isikhafuli i-3C31.

kwesokudla:

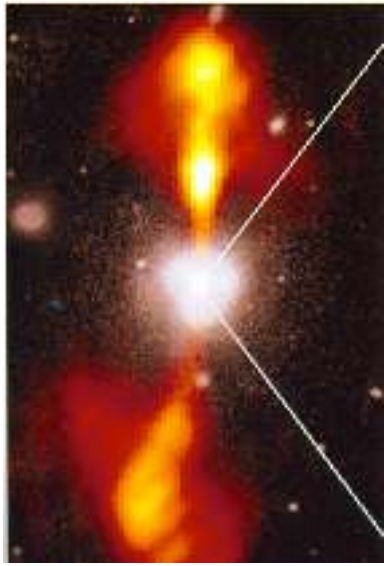
i-NGC 383, umThalakazi owumsukela wamadlebe emanzi we-3C31.



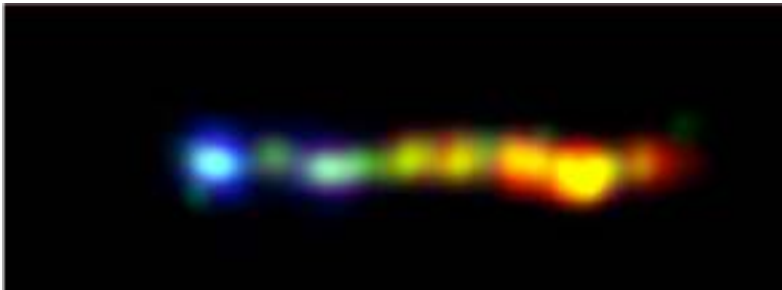
# Ukuphakanyiswa kweziPhinqi

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).



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

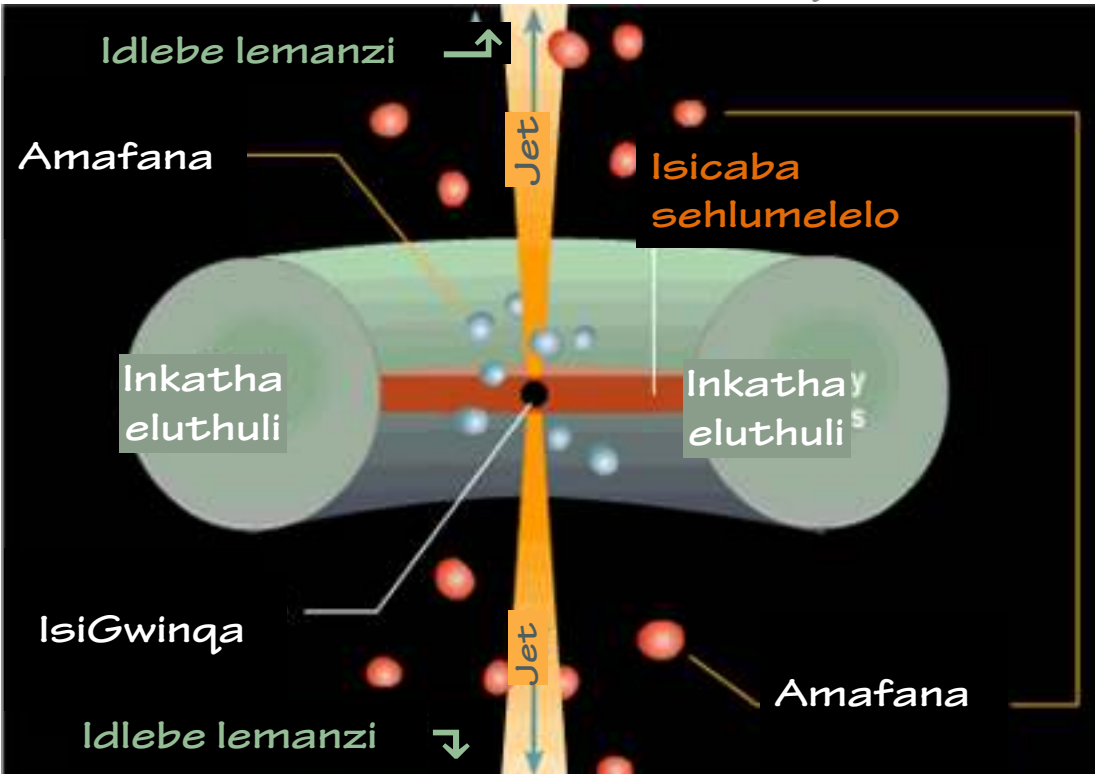
Ngezipopolo zeHubble, izimfundindalo zikwazi ukubona iminingilizo engabonakali ngezipopolo ezisemhlabeni. Sesikwazi ukuhlukanisa izimo zemThalakazi lapho kusuka khona iziShwila.

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.

# 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. 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.



Ukuzama ukuthola iziPhinqi ezikude kuwumsebenzi obalulekile futhi onzima.

Lesi isiThombe sakhwe 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



# Esingakuqondisisi

Kusa nemibuzo eminingi ngeziPhinqi edinga izimpendulo.

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

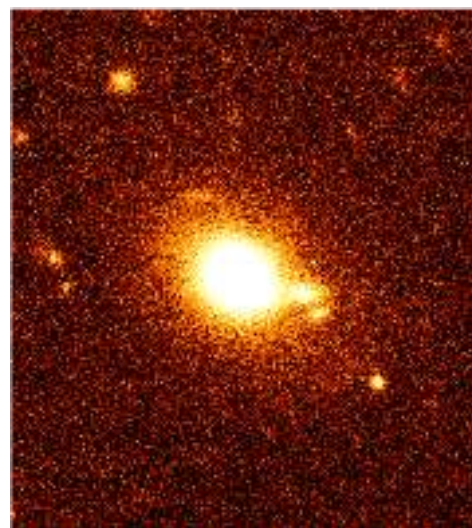
IziPhinqi zibaneka kakhulu ngalendlela yokuthi zikwazi ukuhlongeka zikude kakhulu kanti futhi ukukhanya okusuka kuzona kuthatha isikhathi eside ukuthi kufike kuthina. Ukukhanya esikuthola kuqhamuka kwesikude kakhulu, i-ULAS J1 120+0641, kwakhafulwa eminyakeni eyizigidi ezama-800 emva kokudaleka komKhathilibe.

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



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

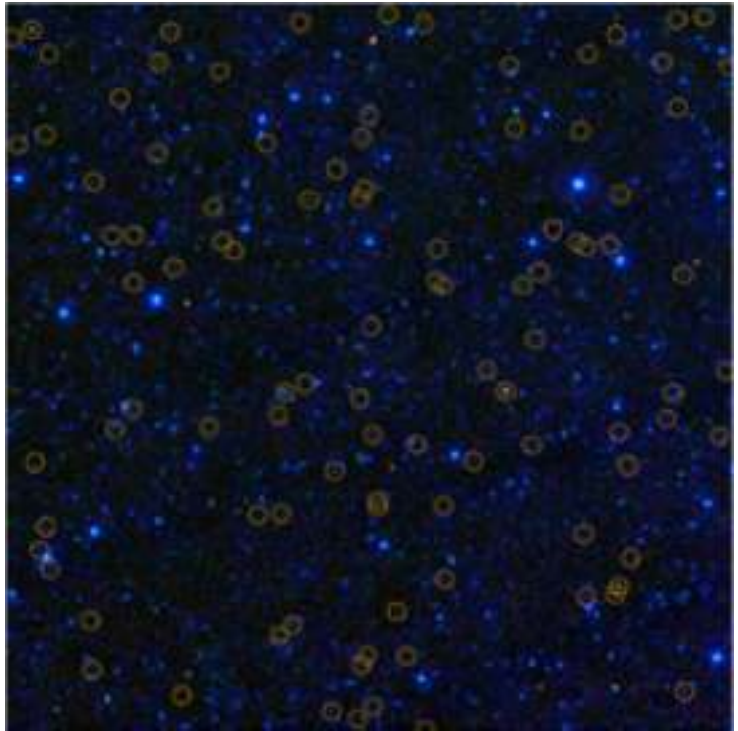
# Olunye uHuneba

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 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  
kuba iziPhinqi kuzingelezwe ngombala  
ophuzu.

# 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 iziznto ezilindele ukuqinisekiswa ukuthi ziyiziPhinqi kanti futhi ziningi ezizayo ezizophakanyiswa uhlolomkhathi lakusasa.

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



Imibuzo



Ziyini lezi  
iziQumbu?




Izimpendulo zikwi-  
overleaf



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

# UmKhathilibe Ephaketheni Lami No. 6

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

IsiThombe esisekhaveni: Iklubo lomThalakazi omkhulukazi olesesi 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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