UMkhathilibe Ephaketheni Lami

Uhlelo lweLanga

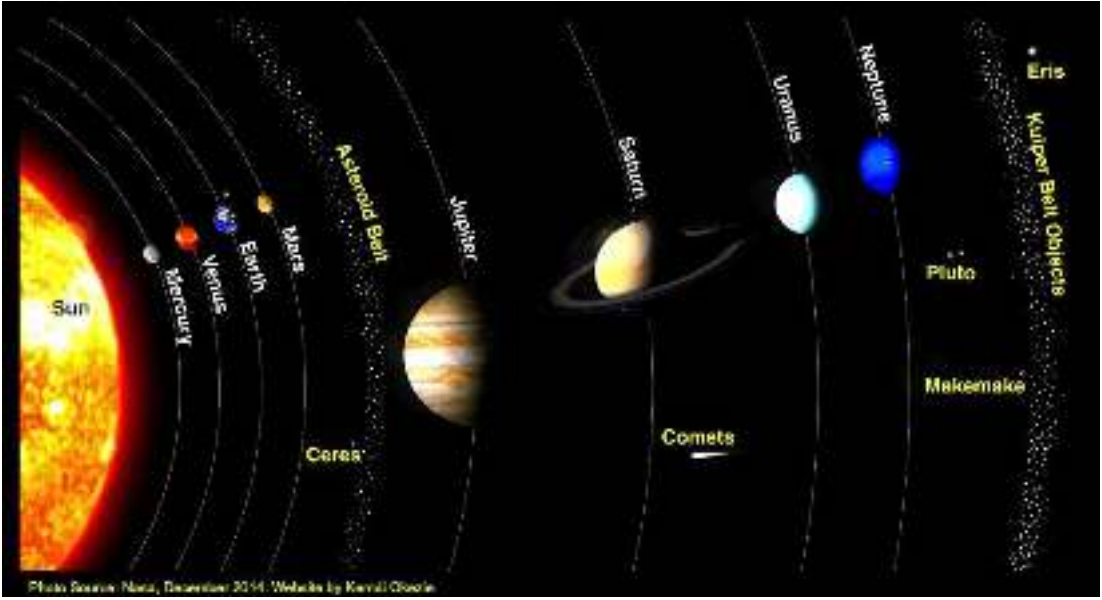
TUIMP

No. 4

THE UNIVERSE IN MY POCKET

Gloria Delgado Inglada

Instituto de Astronomía, UNAM, Mexico



Uhlelo lweLanga lwakhiwe iLanga kanye nakho konke okuyingiliza iLanga: imiZulane, imiZulane esicwe, iziNyanga, imiHlabane, iziBhaqanyezi,iziQhumanyezi....

Cishe izinto ezingama-25 kuhlelo lweLanga zinobubanzi obungaphezulu kwamakhilomitha ayi-1000: iLanga, imiHlaba esamoya, imiHlaba ematshe, imiHlaba esicwe, kanye nalokho okuyingiliza ilanga kude kunoNolundwa.

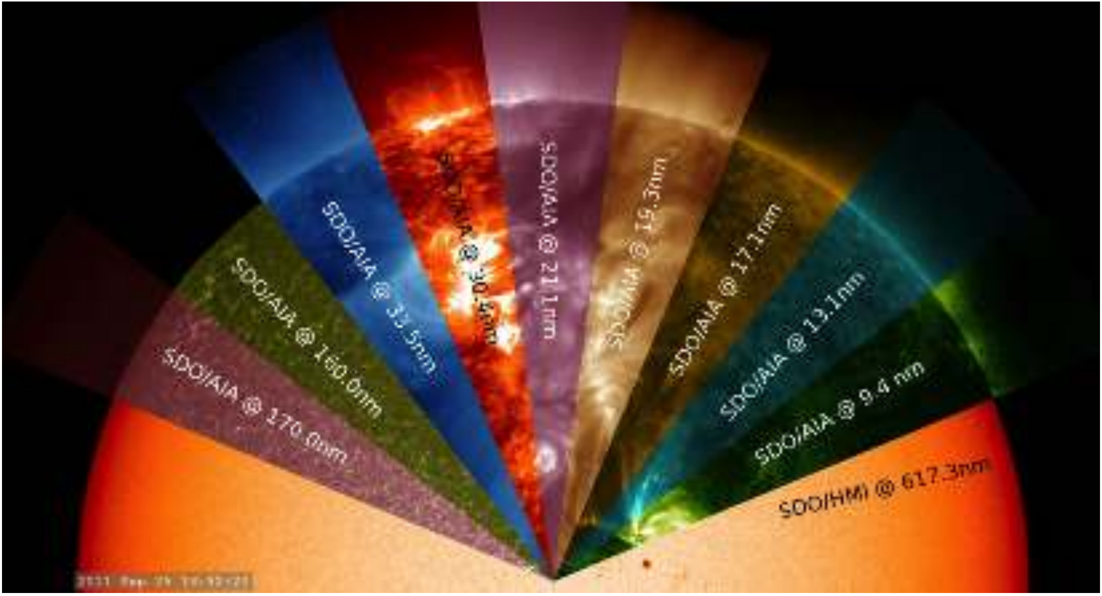
Ezinye izingxenye (imiHlabana, kanye nemiZwayi) zincane kakhulu.

Ukudaleka koHlelo leLanga

Uhlelo lweLanga ladaleka emiyakeni eyizigigidimbili ezingu-4.6 eyedlule. Lokhu sikwazi ngesikufunde kwiziQhumanyezi kanye nemiyonzi.

Konke kwaqala ngeFu loMoya kanye noThunqathunqa. Isidangazelakazi esasisondelene nalelifu salihalahalazisa, okwadala ukuthi leliFu lifingqane ngenxa yomNyondo, kwakheke isicaba, isicaba esintingilizayo esinenigi lotho olutholokala kuMongo: isiFingo

Ngamuva, uMnyondo wadonsa yonke impahla yaba isihlekehleke waphinda wambulukisa enye ukudala imiZulwane kanye nemiZulwane esicwe. Izinsalela zadala iziBhaqanyezi, imiHlabana, kanye neziQhumanyezi.



Ngenhla: iLanga, libukwa ngezivovokukhanya ezahlukene(imibala). Ukubuka izinhlobo ezahlukene zokukhanya kuvumela ososayensi ukuthi bafunde ngakho konke okwenzakala eLangeni. Isiboniselo, amabala ansundu angwanqa kwisokhanya (400 kuya ku-700 nm) kanti kuzikhwithi ayabengeza.
ukukhazimula kweLanga kubukhazi kakhulu kuzukhwithi (10 kuya ku-100nm) kanye nakwixamagu (1 kuya ku-10 nm).

Kwesokudla: Imibalabala idalwa ukushayisana kwohoyane olujiyile olusuka eLangeni kanye namaChwe asemoyeni womhlaba.

ILanga

ILanga liyiNkanyezi. Litholakala kumongo wohlelolanga kanti liqukethe inani elingama-99.9% wesisindo sohlelolanga.

ILanga linesisindo esingumumo kwiziNkanyezi. IziNkanyezi ezinkulu kunazo zonke ziba nesisindo esiphindeke kwikhulu ukudlula iLanga, kanti ezincane ziba nesisindo esiphindeke ishumi ngaphansi kwelanga.

Konke ukushisa nokukhanya okuqhamuka eLangeni kuqhamuka kwiNdeni yelanga lapho khona kwenzeka ingxubanohwanzi.

KwiNuzi yelanga amazinga okushisa alinganiselwa kwizigidi eziyi-15.

IWonga leLanga lidala izehlakalo eziningi ezahlukene ezifana namabala ansundu, izidanguzela, iziVungu, kanye nesbalabala esihle esenzeka emhlabeni.

AmaBhola amele imiZulane eyahlukene yohlelolanga. Kwisithombe ngasinye ubungaka obusimelana bemiZulwane bukhonjisiwe.

Kusukela kwisinxele kuya kwesokudla kanye naphezulu kuya phansi:

Kwisinxele: uNomkhubulwane, uNokhwezi, uNotshezi,uNomjubane.

Kwesokudla: uMkhulukhulwana, uNomaxhama, uNomakhekheba, uNolundwa, uNomkhubulwana, uNokhwezi, uNotshezi,uNomjubane.

Kwisinxele: ILanga,uNomkhulukhululwana, uNomaxhama, uNomakhekheba, uNolundwa,uNomkhu bulwana, uNokhwezi, uNotshezi, uNomjubane.

ImiZulane

Incasiso yokuqala yomZulane yanikezwa ngoNcwaba, kowezi-2006 inikezelwa inhlangano i-IAU. Ngokwalesisichasiso umZulane uNochoko `wayeka' ukuba umZulane wesi-9.

UmZulane into:

1) *ezungeza iLanga,*

2) *enesisindo esanele* ukuthi imbulungiswe uMnyondo *wayo*, futhi

3) *esivuculule* indle *yayo* lezozinto *ezincanyana kunayo.*

Into *enelisa* u- 1) no- 2) kodwa hhayi u- 3) njengoNochoko noma uSirisi ibizwa ngemiZulane *esicwe.*

Uhlelo lwanga luqukethe imiZulane *eyisisishyagalombili* : Emine *efana* noNomkhubulwane (uNomjubane, uNokhwezi, kanye no) kanye nemine *esaMkhulukhulwana* (uNomaxhama, uNomakhekheba, kanye noNolundwa).

kwesokunxele: uSirisi umHlabana omkhulu kunayo yonke enkatheni kanti futhi uwumzulane osicwe. Isithombe sikhombisa amabala agqhamile ebuswenu bawo.

kwesokudla: i-Philae kwaba ithuluzi lokuqala ukuthi lihlale ebusweni boBhaqanyezi i-67P/ Churyumov-Gerasimenko.

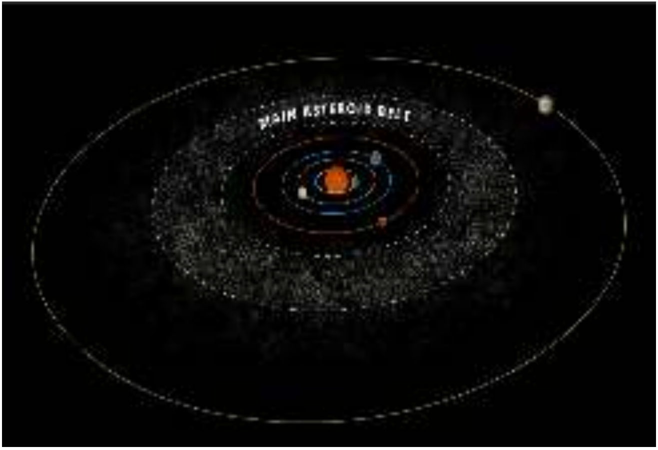
kwesesinxele: Iqhumanyezi i- `La Concepcion'. Lisinda ngaphezulu kwamathani ama-3. Libukiswa e-Institute of Astronomy, e-Mexico City.

- ImiHlabana amatshe azungeza ilanga. Ubukhulu bayo bufinyelela kwi khulu lamaKhilomitha. Atholakala kwiBhande eliphakathi kwaNotshezi kanye noMkhulukhulwana, elibizwa ngokuthi isEnkatheni.

- uBhaqanyezi amabhola enziwe ngamaqhwa kanye nothuli avela emhlonzatshe kanye nakwisingungalanga. kwesinye isikhathi iziBhaqanyezi ziye zisondele elangeni, okuzincibikalisayo. Oludume ilelo elibizwange-Halley's comet, elivakasha njalo eminyakeni eyama-75.

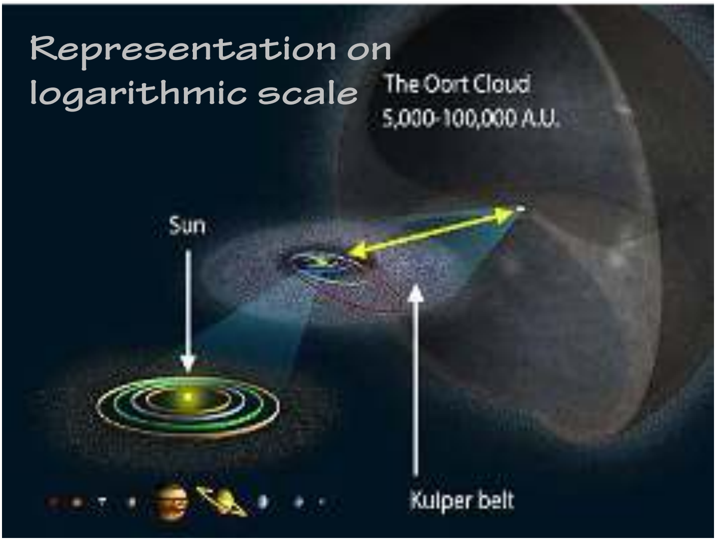
- IziQhumanyezi amatshe adandabuza uhlelo lweLanga. Uma zingena emoyeni womhlaba zibizwa ngeziQhumanyezi. Uma zisinda ekuqheshulweni umoya, zifika ebusweni bomhlaba, zibizwa ngamatshe omkhathini.

- Izinyanga iziZungezimhlaba zemvelo



<u>kwesesinxele</u>: Enkatheni ephakathi kwaNotshezi noMkhulukhulwana

<u>kwesokudla</u>: uMhlonzatshe utholakala mawudlula umzila wokuzungeza kwNolundwa.



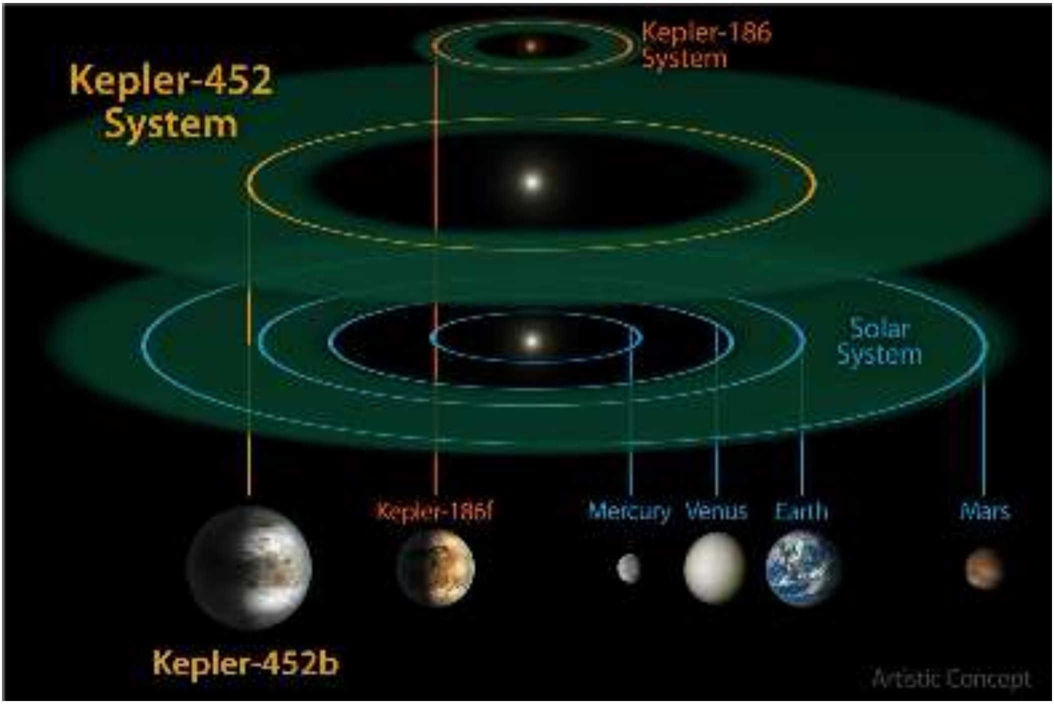
<u>kwisinxele</u>: Isingunga langa siqukethe isigidintathu sokusamaqhwa kunqenqe lohlelo lwela

Enkatheni Iqukethe imHlabana elinganiselwe kwizigidimbili. LemiHlabana yadaleka ekudalekeni kohlelo lweLanga kanti agcina esebanjwe umNyondo kaMkhulukhulwana esemisa okweNkatha.

Umhlanzatshe Uqukethe ikhulu lezinkulungwane zoBhaqanyezi kanye nokunye, okufana noNochoko.

Isihaqalanga Ifu elakhiwe izinto ezincane elitholakala emaphethelweni ohlelo lweLanga. Likude kunathi kanti likhulu ngalendlela yokuthi iVoyager 1 (umdlozinga womkhathi owanyakulwa ngowe-1977) kuzoyithatha amakhulu eminyaka ukuthi ifike kusona kanti kuyoyithatha izinkulungwane zeminyaka ukuthi iyidabule iphinde iyidlule. Ngesivinini sokukhanya (amamitha ayizi-300,000 kumzuzwana), kungathatha unyaka ukuhamba usuke eLangeni uya kwisiHaqalanga.

Umdwebo okhombisa ubuso bomzulane i-proxima b owaphakanyiswa uzungeza inkanyezi esondelene nelanga lethu.



Ekugelezeni indawo engunge iNkanyezi lapho aManzi ekwazi ukugeleza khona ebusweni boMzulane(ngenxa yokuthi amazinga okushisa awekho phezulu kakhulu kanti futhi awekho phansi kakhulu). Amazinga aluhlaza esisithombe ni akhombisa eKugelezeni kwaleNkanyezi esanda kukhushulwa.

Ezinye Izizungezonhlelo

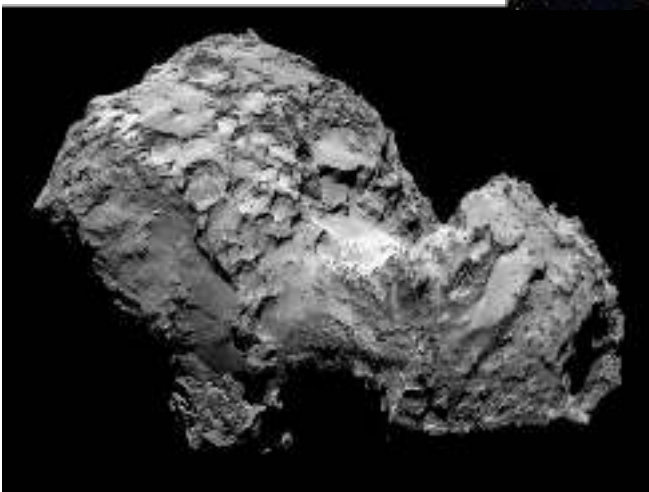
ILanga liyenye lekhulu lezinkulungwane zezigidi zeziNkanyezi* Ezikhona kuMzilafasimbe, okuwuMthalakazi esiphila kuwona. UMzilafasimbe ungomunye yeMthalakazi eyi-10^{11} ekhona kuMkhathilibe. Ngabe-ke, zingakanani izizungezonhlelo ezikhona kumkhathilibe wonkana?

Unzima lo mubuzo ngoba kunezinhlobo eziningi ezahlukene zeziNkanyezi: ezinye zishisa kakhulu kanti ezinye zipholile. Ezinye ziqhingiwe njenge langa lethu kanti ezinye ziyisisishimanqa. Singacabanga nje ukuthi iningi lezinkanyezi kumkhathilibe ziqukethe imizulane ewazungezayo.

umzulane ozungeza enye waphakanyiswa ngowezi-1998. Ekupheleni kowezi-2016, kwase kwaziwa elinganiselwa kwizi-3540!

* bhaleka kanje 10^{11}

Imibuzo



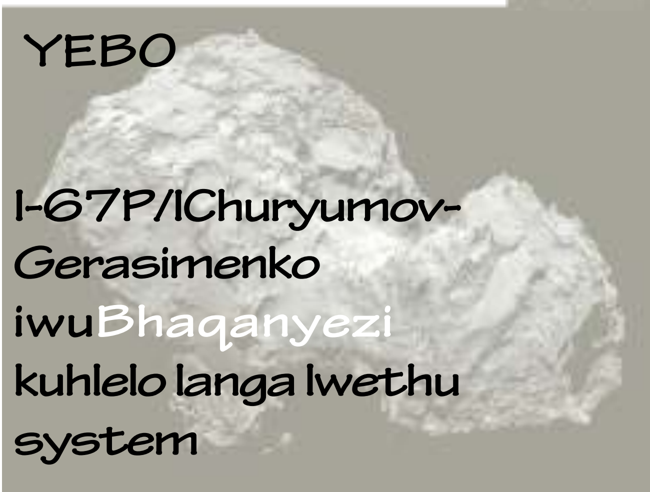
Ngabe lezizinto ziyingxenye yohlelo lweLanga?

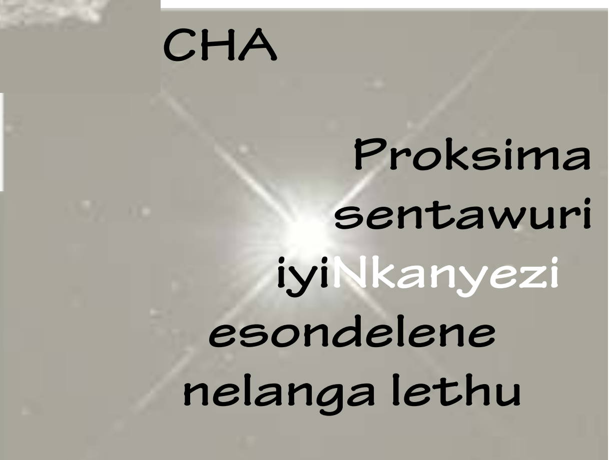
Izimpendulo zikwi-overleaf

Incazelo

YEBO
uNochoko
uwuMzulane osicwe
Yohlelo lweLanga

CHA
I-Andromida
iwuMthalakazi
onezinhlelo langa ezininingi


YEBO
I-67P/IChuryumov-
Gerasimenko
iwuBhaqanyezi
kuhlelo langa lwethu
system


CHA
Proksima
sentawuri
iyiNkanyezi
esondelene
nelanga lethu

YEBO
I-90482 Okhasi
iwusanochoko

Umkhathilibe Ephaketheni Lami No. 4

LeNcwajana ilotshwe ngowezi-2016 ilotshwa ngu-Gloria Delgado Inglada wase Instituto de Astronomía, UNAM (eMexico) yase iningilizwa uStan Kurtz wase Instituto de Radioastronomía y Astrofísica, UNAM (eMexico).

IKhava umdwebo wozungezohlelo lweLanga kanye neNkanyezi yawo (iLanga), imizulane eyisi-8, kanye nezinyanga eziyi-130, uBhaqanyezi, imiHlabana, amatshe, kanye neMizwayi. uVuthwa: -NASA.
Ezinye iziThombe zithathelwe kwiNASA, i-ESA , kanye neHubble archives.

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Ihumushwe: Nhlanhla Mbambo

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