

SAO Explorer

Advanced topics

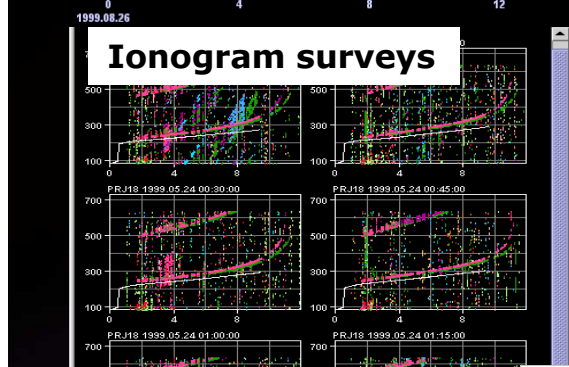
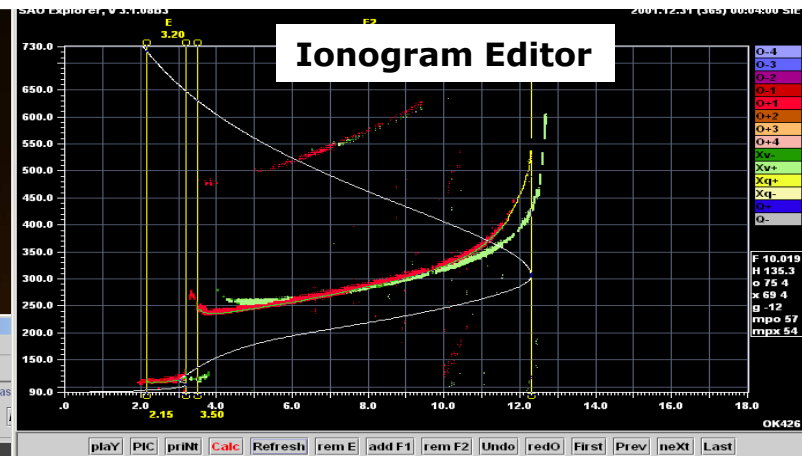
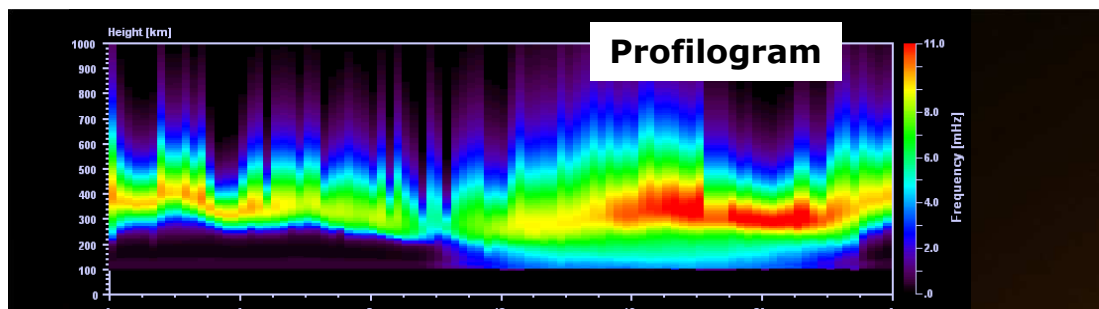


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The logo for the XIV International Giro Forum (IGF) 2014. It features the text "IGF 2014" in a large, bold, blue font. The number "2" is replaced by a stylized globe showing the Americas. The background of the slide is a photograph of the Earth's horizon from space, with a bright sun or light source on the right side, creating a warm, orange glow.

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Char Table

SAO Explorer v 3.1.00b3 (UMLCAR DDB is online)

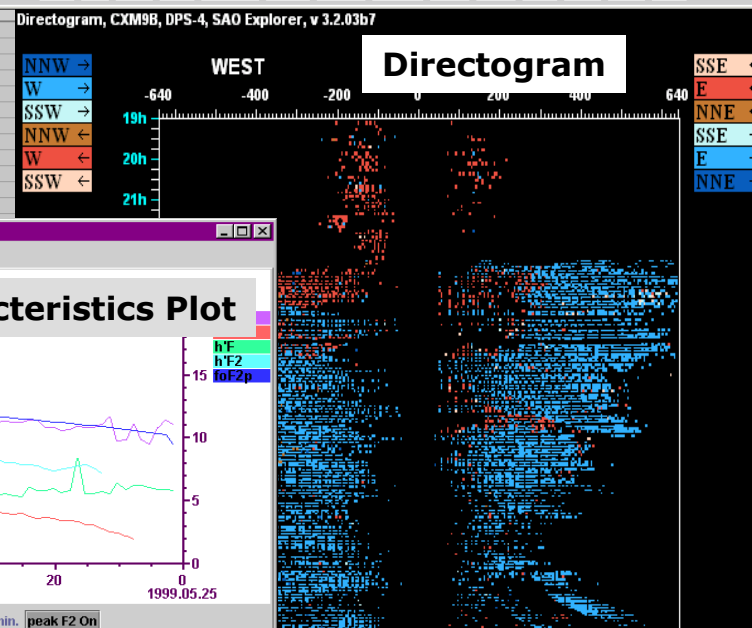
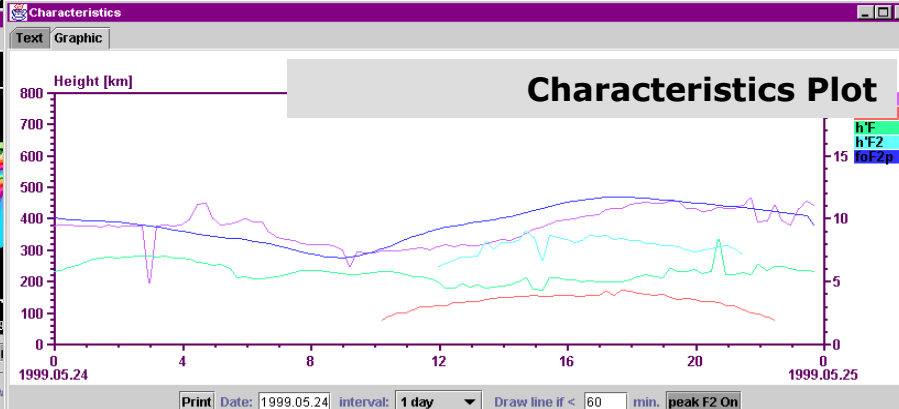
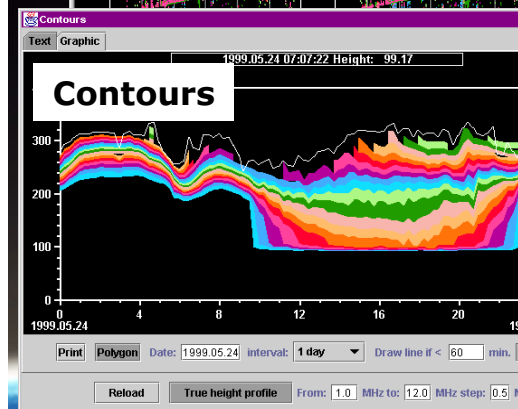
File View Settings Help

View

Ionogram 2001.12.31 (365) 00:04:00 SIE

Total records: 1 Station Number: 026 Name: Okinawa Modet DPS-1 URSI code: OK426

Show	Color	Title	Value	Q	D	Flags	Characteristic description
<input checked="" type="checkbox"/>	Blue	f _o F2	12.300	/	/	P	F2 layer critical frequency
<input checked="" type="checkbox"/>	Blue	f _o F2p	11.39	/	/	P	Predicted value of f _o F2
<input checked="" type="checkbox"/>	Blue	f _o F1	NoValue	/	/	P	F1 layer critical frequency
<input checked="" type="checkbox"/>	Blue	f _o F1p	NoValue	/	/	P	Predicted value of f _o F1
<input checked="" type="checkbox"/>	Blue	f _{min} F	3.50	/	/	EV	Minimum frequency of F-layer echoes
<input checked="" type="checkbox"/>	Blue	f _o E	3.21	/	/	V	E layer critical frequency
<input checked="" type="checkbox"/>	Blue	f _o E _p	2.87	/	/	P	Predicted value of f _o E
<input checked="" type="checkbox"/>	Blue	f _{min} E	2.15	/	/	V	Minimum frequency of E-layer echoes
<input checked="" type="checkbox"/>	Blue	f _{min}	2.15	/	/	V	Minimum frequency of ionogram echoes
<input checked="" type="checkbox"/>	Blue	h _m F2	305.9	/	/	V	Peak height F2-layer
<input checked="" type="checkbox"/>	Blue	h'F2	238.5	/	/	V	Minimum virtual height of F2 trace
<input checked="" type="checkbox"/>	Blue	h'F	238.5	/	/	V	Minimum virtual height of F trace



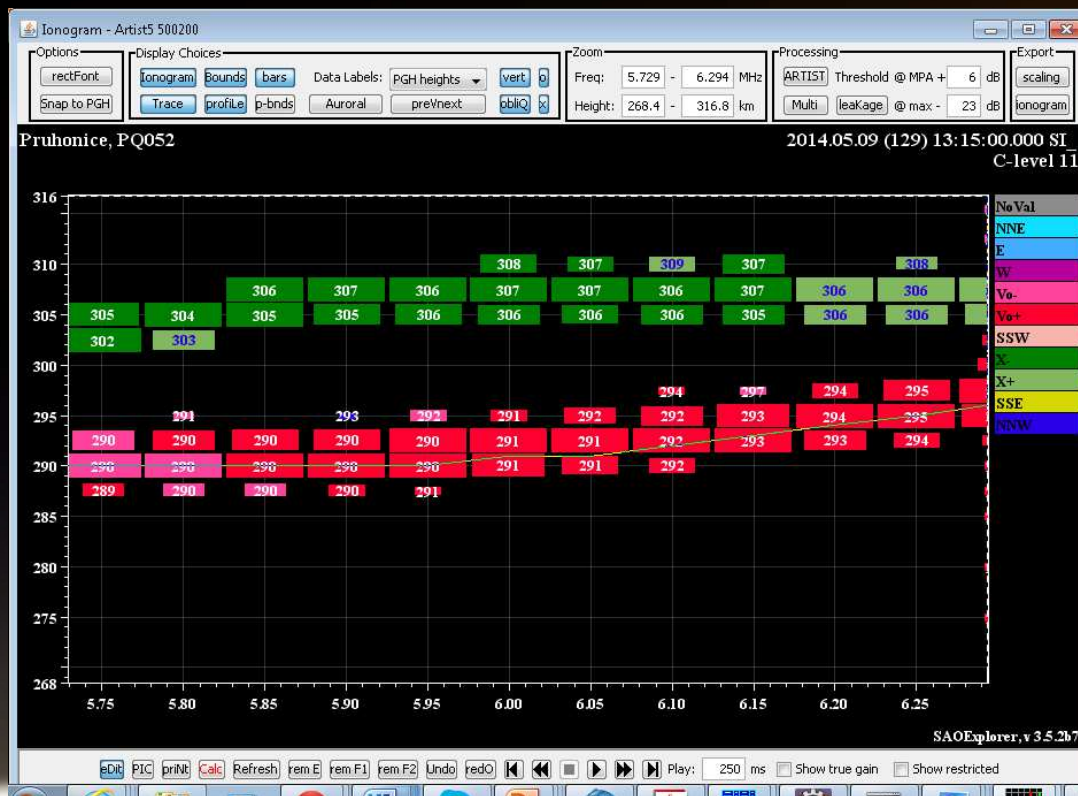
SAO Explorer Workgroups

- Sign up for hands-on SAO-X sessions with Sasha or Ivan
- This “tips and tricks” presentation will review some of the less known features

New Features

- Digisonde 4D new ionogram format “ING”
 - Will allow skymapping ionograms!!
- Dashes in electron density profile display
 - Sections of profile derived with model assumptions
- Selection of look-and-feel and fonts
- Option to show data on restricted frequencies
- User folder
 - Windows 7/8 and Linux

Tips and Tricks: Ionogram Mode



- Use shortcut keys
 - W = Run ARTIST
 - X = next
 - Z = previous
 - C = Run NHPC
 - Use tooltips
- Use Data Labels
 - PGH
- Navigate using keys
 - Arrows
 - +, - and Esc for zoom
- No need to fit “o” to move layer bounds
- Use Right button for Es

Tips and Tricks: Chars Window

SAO Explorer v 3.1.08b3 (UMLCAR DIB is online - scaler Grigori Khmyrov)

File View Scaler Help

Scaler (DIDBase and SAO.XML)

View: Ionogram i

List of Records: Jason Conway 2001.03.31 (090) 00:00:05 SI_ Submit in DIDB: Current

Total records: 96 Station Number: Name: QAANAAQ Model: DGS-256 URSI code: THJ77

Show	Color	Title	Value	Q	D	Flags	Characteristic description
<input checked="" type="checkbox"/>	Blue	foF2	7.700	/		EV	F2 layer critical frequency
<input checked="" type="checkbox"/>	Blue	foF2p	5.09	/	/	P	Predicted value of foF2
<input type="checkbox"/>	Blue	foF1	NoValue	/		V	F1 layer critical frequency
<input type="checkbox"/>	Blue	foF1p	NoValue	/	/	P	Predicted value of foF1
<input type="checkbox"/>	Blue	fminF	2.90	/		EV	Minimum frequency of F-layer echoes
<input type="checkbox"/>	Orange	foE	NoValue	/		V	E layer critical frequency
<input type="checkbox"/>	Green	foEp	1.38	/	/	P	Predicted value of foE
<input type="checkbox"/>	Blue	fminE	NoValue	/		V	Minimum frequency of E-layer echoes
<input type="checkbox"/>	Blue	fmin	2.90	/		EV	Minimum frequency of ionogram echoes
<input type="checkbox"/>	Blue	hmF2	320.8	/		V	Peak height F2-layer
<input type="checkbox"/>	Blue	h'F	269.5	/		EV	Minimum virtual height of F trace
<input type="checkbox"/>	Blue	h'F2	269.5	/		EV	Minimum virtual height of F2 trace
<input type="checkbox"/>	Blue	h'E	NoValue	/		EV	Minimum virtual height of E trace
<input type="checkbox"/>	Blue	fd	8.70	/		V	Maximum frequency of F trace
<input type="checkbox"/>	Blue	FF	.31	/		EV	Frequency spread between fxF2 and fd
<input type="checkbox"/>	Blue	FE	NoValue	/		V	Frequency spread beyond foE
<input type="checkbox"/>	Blue	QF	15.0	/		V	Average range spread of F-layer
<input type="checkbox"/>	Blue	foP	NoValue	/		V	Highest ordinary wave critical frequency of F region patch trace
<input type="checkbox"/>	Blue	QE	NoValue	/		V	Average range spread of E-layer

List of records

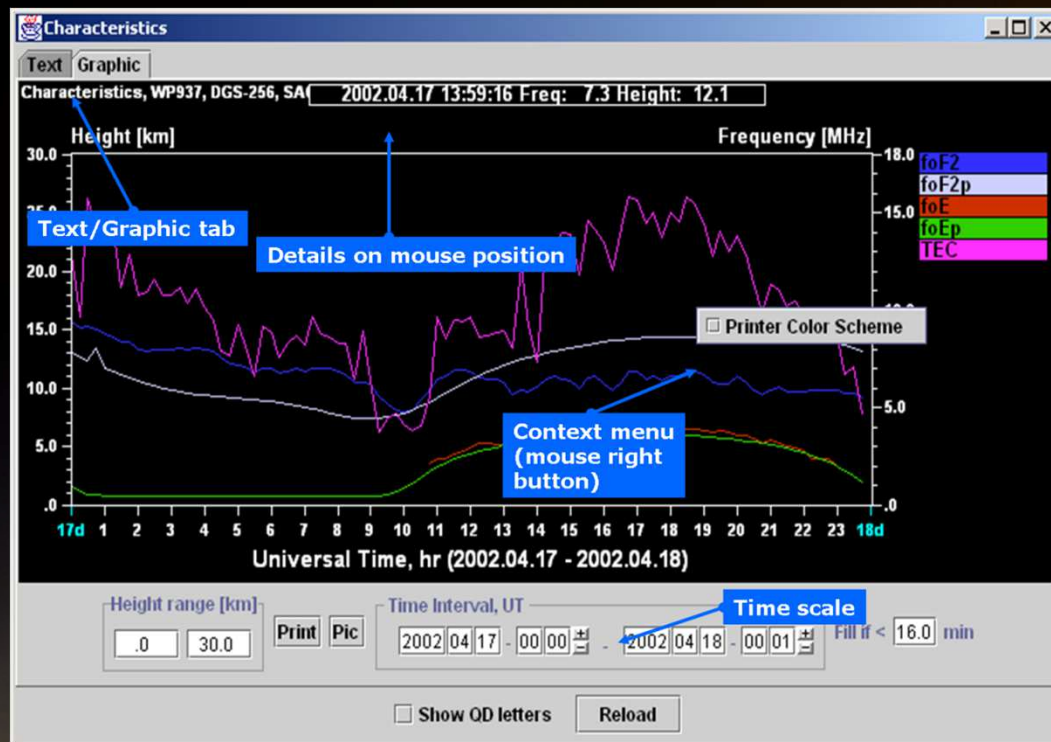
Ionospheric characteristics set.

Drag and drop to change order.

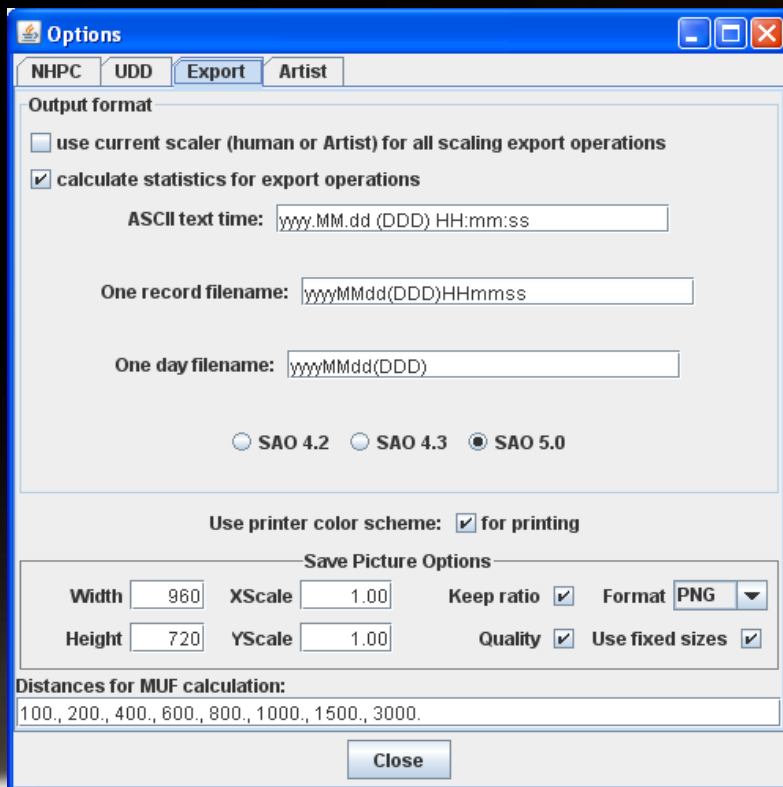
- Drag and Drop to rearrange the order of chars

Tips and Tricks: Time Series

- Use Fast Chars from DIDBase for fastest access

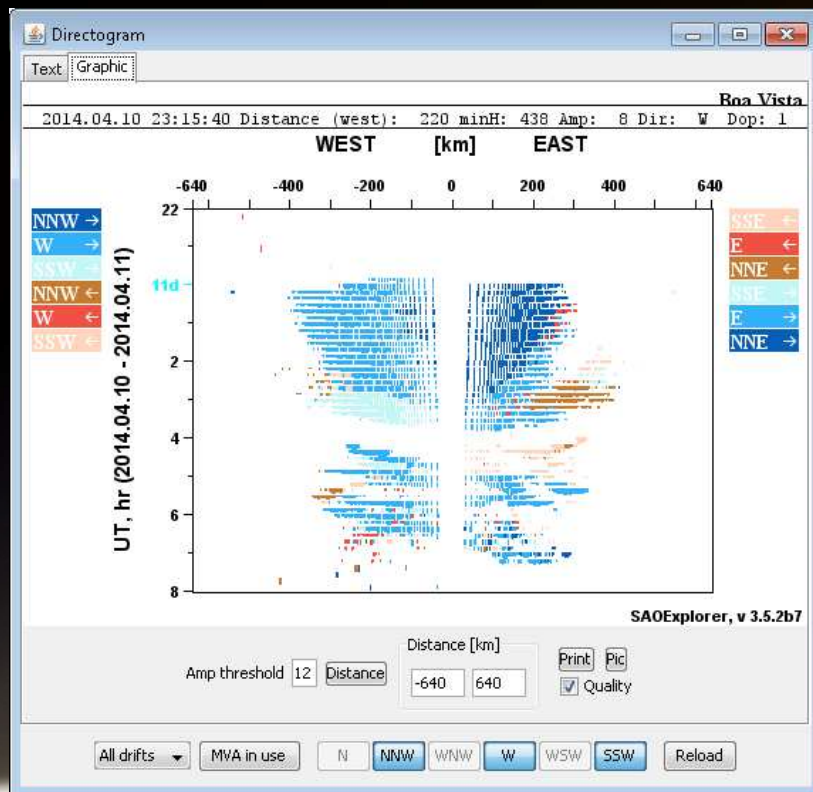


Tools and Tricks: Figure Making



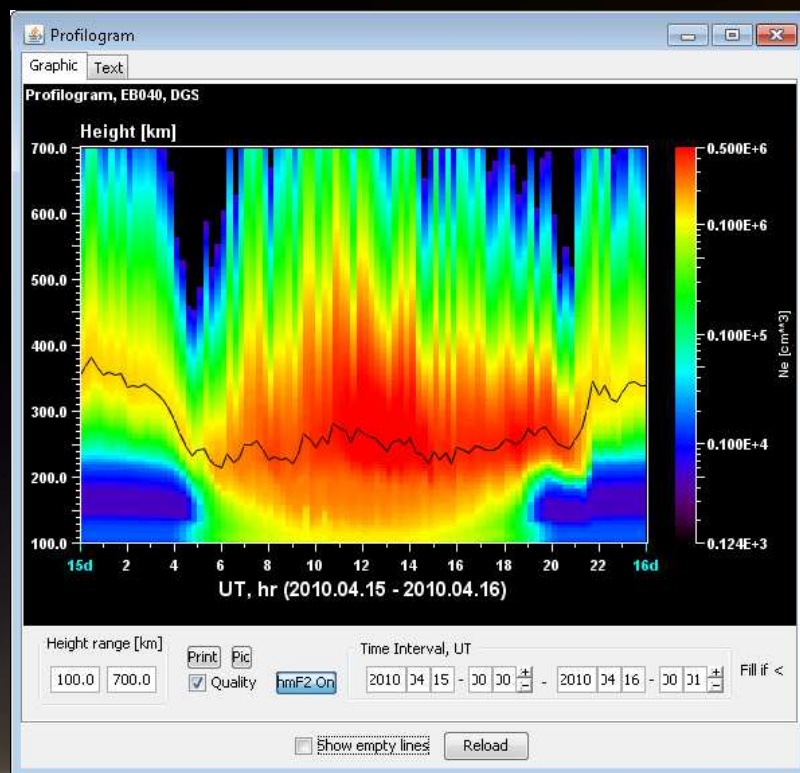
- No need to use Option window to change file format
 - Just put needed extension to the filename: .PNG, .JPG, .BMP
- EPS is best for publication quality
 - Use small window size and EPS format, edit in Illustrator
- Alternatively, use small window size, PNG format, and double the X and Y scales

Tips and Tricks: Directogram



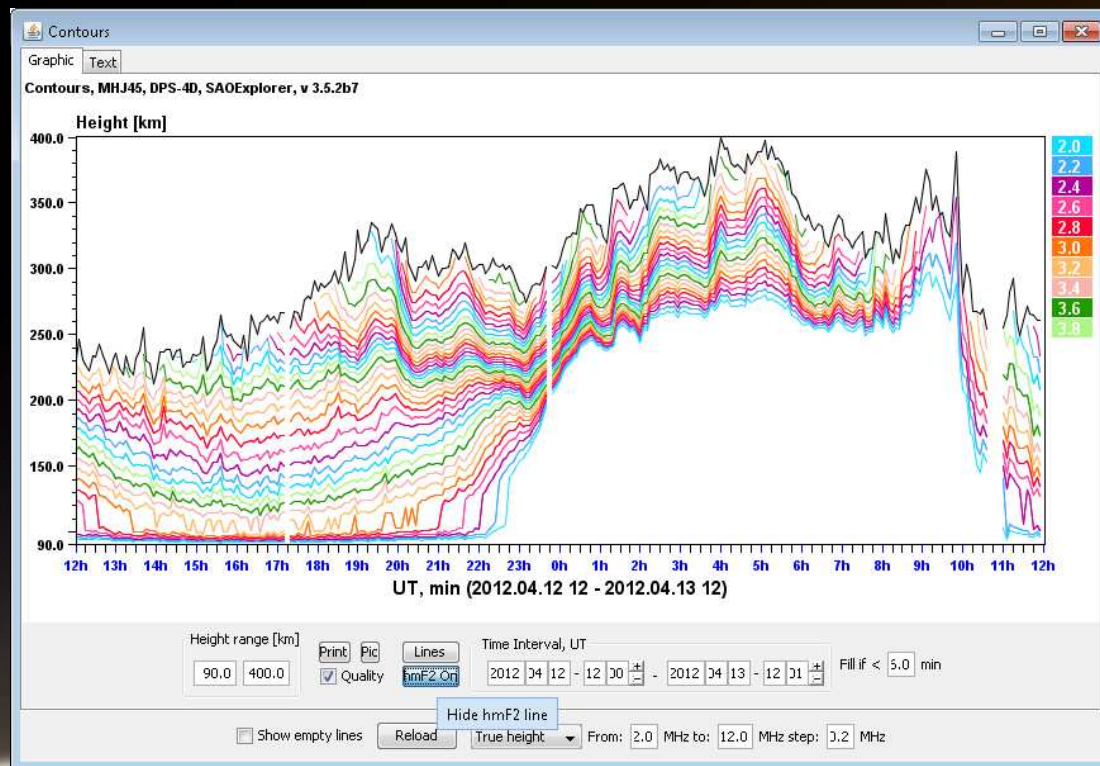
- What can be done better?
 - Select primary axis (currently only W-E)
 - Plot sunset time (currently use “i” button)

Tips and Tricks: Profiogram



- Add hmF2 to visually separate bottomside (observed) and topside (modeled) F2 layer
- Work on ionogram scaling until perfect hmF2

Tips and Tricks: Contours



- Try virtual ranges
- Enable peak height

Dalu

감사합니다

Gracias

Danke

Ευχαριστίες

THANK YOU

Obrigado

Köszönöm

Tack

Grazie

Спасибо

Dank

谢谢

Merci

ありがとう

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