

Introdução ao OpenDSS

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2º Encontro do Grupo de Usuários do OpenDSS Brasil
20/01/2020

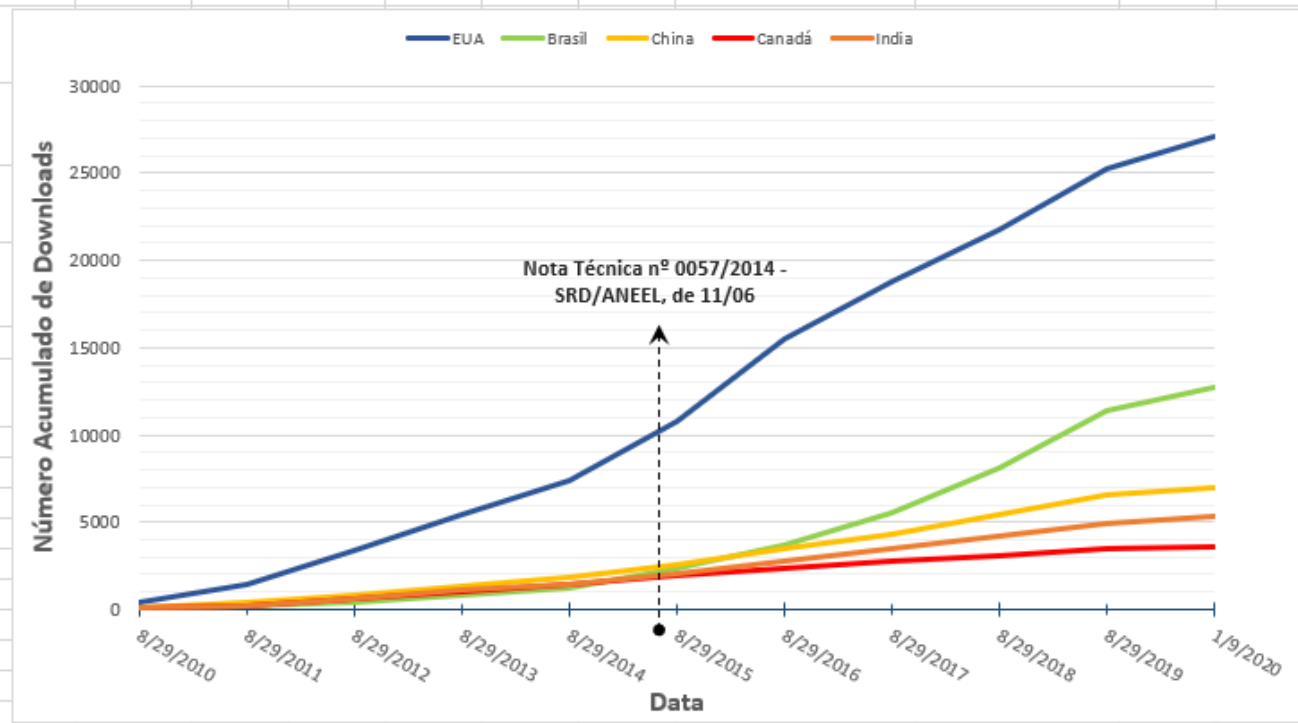


Visão Geral

- OpenDSS no Brasil
- Por que “Open”?
- O que é e o que não é
- Características importantes
- Expandindo o uso do software
- Versões
- Fórum
- Recursos

OpenDSS no Brasil

Total	
	27133
	7004
	12701
	5292
	3608



Por que “Open”?

1. EPRI tem a obrigação de fornecer benefícios ao público
2. Aumentar a capacidade de modelagem de redes de distribuição
3. Encorajar a interface entre o OpenDSS e ferramentas complementares
4. Encorajar a adoção do item 2 em produtos comerciais utilizados pelas companhias elétricas
5. Encorajar trabalhos colaborativos

O que é

- Software de simulação de circuitos elétricos no domínio da frequência (fasorial), baseado em linhas de códigos

O que não é

- Não é um software de simulação de transitórios eletromagnéticos (domínio do tempo)

Características importantes

- Simulações QSTS (*Quasi-static timeseries simulation*).
- Código Livre e Aberto.
- Linguagem de programação simples.
- Habilidade de programar o comportamento do software.
- Habilidade de modelar linhas de n fases, de configurações arbitrárias e transformadores de n fases, m enrolamentos.
- Elementos de controle são modelados separadamente de componentes elétricos.
- Valores por unidade e componentes simétricas não são utilizados no algoritmo de solução.

Versões

- | | | |
|----|-------------------|------------------------------|
| 1. | OpenDSS.exe | Standalone EXE |
| 2. | OpenDSSEngine.dll | <i>In-process</i> COM server |
| 3. | OpenDSSDirect.dll | Direct Call DLL |

- Cada uma está disponível em 32 e 64-bit
- KLUSolve.dll, “sparse matrix solver”
- DSSView.exe, programa separado para processamento de saídas gráficas

Expandindo o uso do software

- Interface COM
 - Apenas no Windows
 - Funciona bem junto com o pacote Office e outras linguagens como o Python
- Interface Direct DLL
 - Mesmas funções da COM, porém para sistemas operacionais que não suportam a COM ou linguagens com as quais a COM é lenta
- Para usuários mais experientes:
 - Fazer o download do Código fonte e modificá-lo como desejar
 - Desenvolver DLLs que se conectam com o OpenDSS

Fórum

- Link: <https://sourceforge.net/p/electricdss/discussion/>

The screenshot shows the SourceForge website interface for the OpenDSS project. The top navigation bar includes links for Help, Create, Join, and Login. Below this, there are tabs for Open Source Software, Business Software, Services, and Resources. A search bar is present on the right side of the navigation bar.

The main content area features the OpenDSS logo and title, along with the subtitle "EPRI Distribution System Simulator". Below this, it lists contributors: davismont, rdugan, robertkhenry, temcdm, and wsunderm1.










The "Discussion" tab is selected, showing a list of topics. The left sidebar contains a search bar, a "Create Topic" button, a "Stats Graph" link, and a list of forums including "Open Discussion (1427)", "Help (1088)", "Beginners (823)", and "Experts (36)".

Topic	Posts	Views	Last Post
"Wait" command slowing down the script considerably! By Mattia Secchi on Mon Dec 23, 2019 03:25 PM	4	26	By Mattia Secchi on Wed Jan 08, 2020 01:40 PM
Inverter models By Rakesh Belchandan on Fri Jan 03, 2020 06:07 PM	5	47	By Rakesh Belchandan on Tue Jan 07, 2020 09:02 PM
Split phase transformer By Rakesh Belchandan on Mon Oct 21, 2019 02:23 PM	2	37	By Rakesh Belchandan on Tue Jan 07, 2020 08:48 PM
kW rating of Generator using com interface in matlab. By Roger Dugan on Thu Jan 02, 2020 01:21 PM	5	47	

Recursos

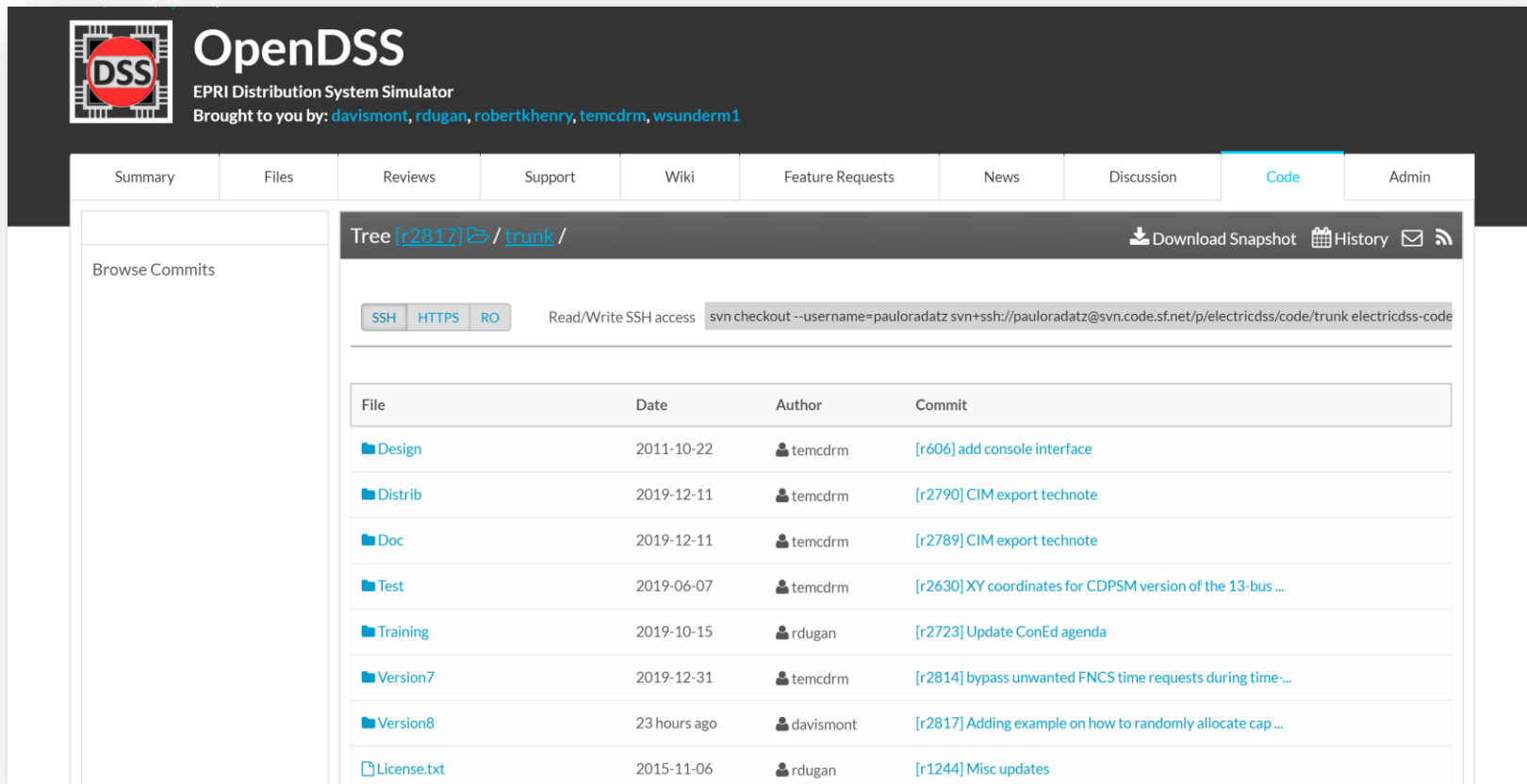
- Pasta do OpenDSS: C:\Program Files\OpenDSS

Program Files > OpenDSS

Name	Date modified	Type	Size
 Doc	1/8/2020 10:44 AM	File folder	
 EPRI Test Circuits	1/8/2020 10:44 AM	File folder	
 Examples	1/8/2020 10:44 AM	File folder	
 IEEE Test Cases	1/8/2020 10:44 AM	File folder	
 Training	1/8/2020 10:44 AM	File folder	
 x64	1/8/2020 10:44 AM	File folder	
 x86	1/8/2020 10:44 AM	File folder	
 License.txt	3/19/2019 11:56 AM	Text Document	2 KB
 readme.txt	10/11/2019 1:55 PM	Text Document	8 KB

Recursos

- Source Forge: <https://sourceforge.net/p/electricdss/code/HEAD/tree/trunk/>
 - Version8
 - Training/BrazilGroup



The screenshot shows the SourceForge repository page for OpenDSS. The page header includes the OpenDSS logo and the text "EPRI Distribution System Simulator Brought to you by: davismont, rdugan, robertkhenry, temcdrm, wsunderm1". The navigation bar has tabs for Summary, Files, Reviews, Support, Wiki, Feature Requests, News, Discussion, Code (selected), and Admin. The main content area shows the "Tree [r2817] / trunk /" view. It includes a "Download Snapshot" button, a "History" button, and a "Read/Write SSH access" section with a code snippet: `svn checkout --username=pauloradatz svn+ssh://pauloradatz@svn.code.sf.net/p/electricdss/code/trunk electricdss-code`. Below this is a table of files and commits.

File	Date	Author	Commit
Design	2011-10-22	temcdrm	[r606] add console interface
Distrib	2019-12-11	temcdrm	[r2790] CIM export technote
Doc	2019-12-11	temcdrm	[r2789] CIM export technote
Test	2019-06-07	temcdrm	[r2630] XY coordinates for CDPSM version of the 13-bus ...
Training	2019-10-15	rdugan	[r2723] Update ConEd agenda
Version7	2019-12-31	temcdrm	[r2814] bypass unwanted FNCS time requests during time...
Version8	23 hours ago	davismont	[r2817] Adding example on how to randomly allocate cap ...
License.txt	2015-11-06	rdugan	[r1244] Misc updates

Recursos

- Pasta compartilhada no Google Drive:

<https://drive.google.com/drive/u/1/folders/0B0GTsli12nHXLUp0UC15YzYteE0>

The screenshot displays the Google Drive web interface. On the left, the navigation sidebar includes options like 'New', 'My Drive', 'Shared with me', 'Recent', 'Starred', 'Trash', 'Backups', and 'Storage'. The main area shows the path 'My Drive > RepositorioGrupoOpenDSS'. Below this, a table lists the contents of the folder:

Name	Owner	Last modified	File size
Encontros	me	Sep 11, 2017 me	—
NotasTecnicas	me	Sep 11, 2017 me	—
TrabalhosOpenDSS	me	Sep 11, 2017 me	—

At the bottom of the sidebar, it indicates '285.9 MB of 15 GB used' and provides a 'BUY STORAGE' link.

Recursos

▪ Videos YouTube

- Canal EPRI OpenDSS:

https://www.youtube.com/watch?v=RGbflfhGcRg&list=PLcOap2oqW_gEME_VH9dg2HoXJ4NvydfsZM

- OpenDSS Basic Tutorial

- Canal Paulo Radatz:

<https://www.youtube.com/channel/UCmzJaS8NQZYEi4RrOFftCaA/playlists>

- Tutorial Básico
- Tutorial Básico OpenDSS controlado via interface COM
- Tutorial OpenDSS Time-Series
- OpenDSS e Interface COM Tutorial 1
- OpenDSS-G Tutorial 1

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