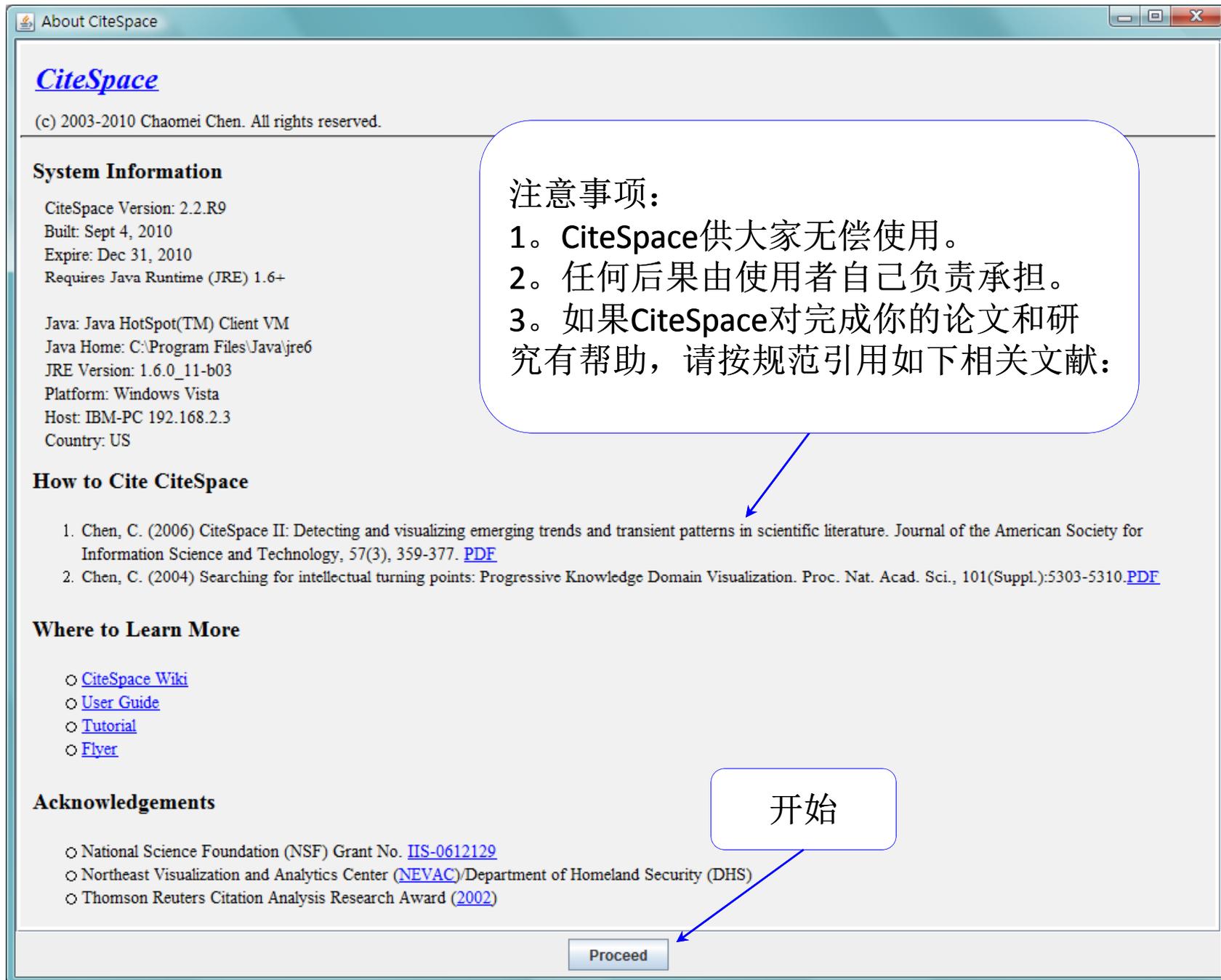


CiteSpace使用案例： 初学者

陈超美

Dec 7, 2010



CiteSpace

(c) 2003-2010 Chaomei Chen. All rights reserved.

System Information

CiteSpace Version: 2.2.R9
Built: Sept 4, 2010
Expire: Dec 31, 2010
Requires Java Runtime (JRE) 1.6+

Java: Java HotSpot(TM) Client VM
Java Home: C:\Program Files\Java\jre6
JRE Version: 1.6.0_11-b03
Platform: Windows Vista
Host: IBM-PC 192.168.2.3
Country: US

How to Cite CiteSpace

1. Chen, C. (2006) CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. Journal of the American Society for Information Science and Technology, 57(3), 359-377. [PDF](#)
2. Chen, C. (2004) Searching for intellectual turning points: Progressive Knowledge Domain Visualization. Proc. Nat. Acad. Sci., 101(Suppl.):5303-5310. [PDF](#)

Where to Learn More

- [CiteSpace Wiki](#)
- [User Guide](#)
- [Tutorial](#)
- [Flyer](#)

Acknowledgements

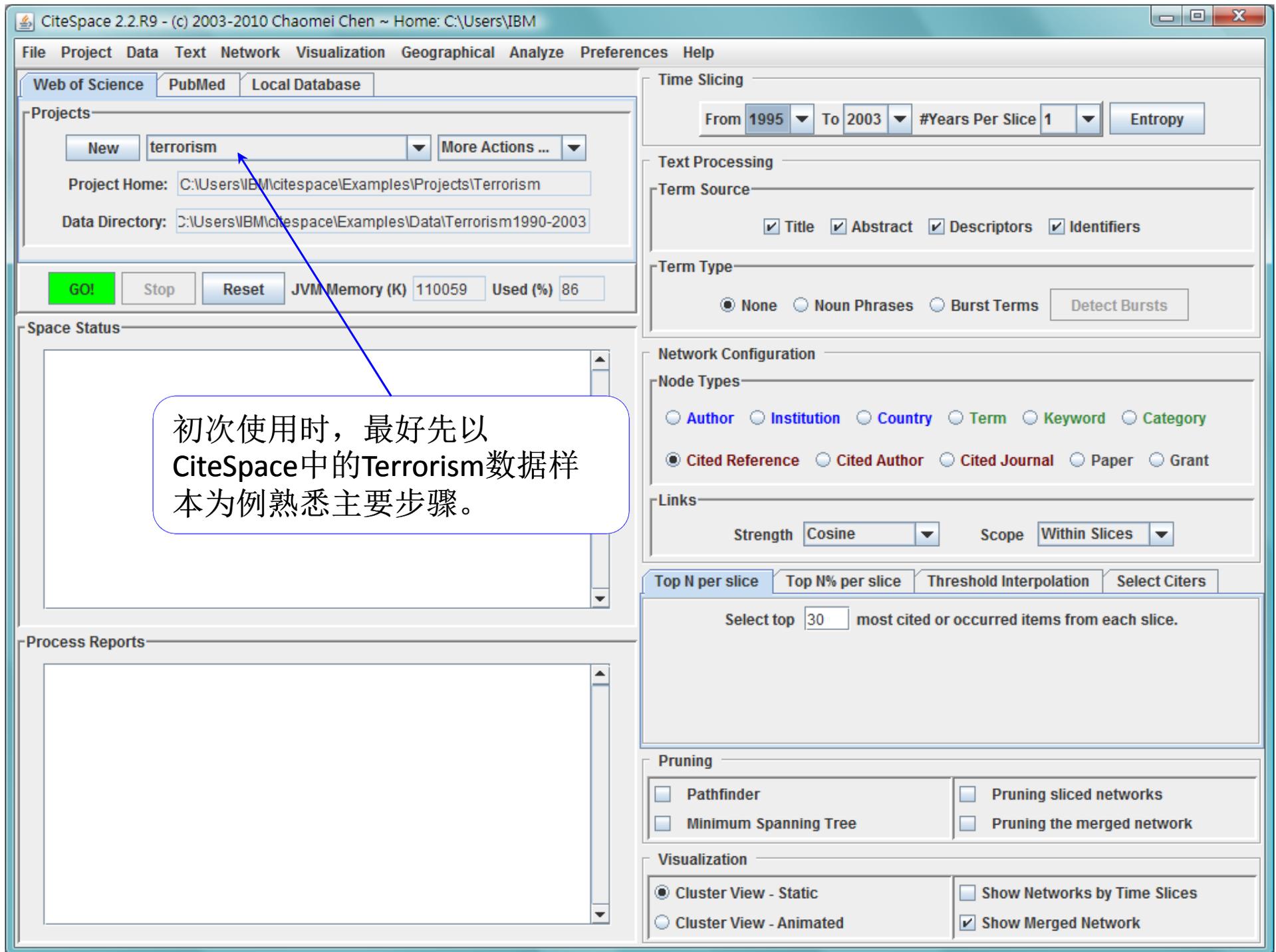
- National Science Foundation (NSF) Grant No. [IIS-0612129](#)
- Northeast Visualization and Analytics Center ([NEVAC](#))/Department of Homeland Security (DHS)
- Thomson Reuters Citation Analysis Research Award ([2002](#))

Proceed

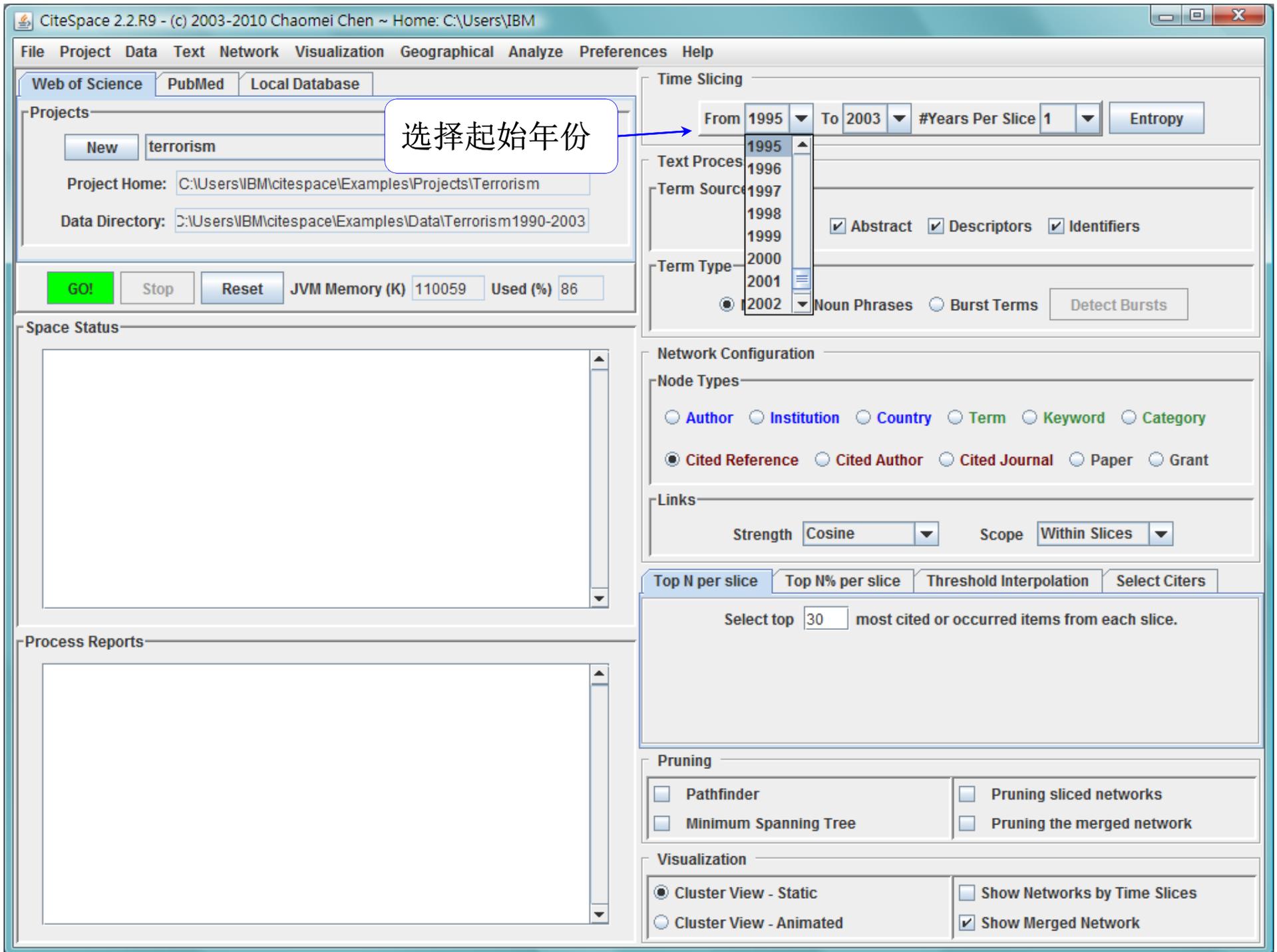
注意事项:

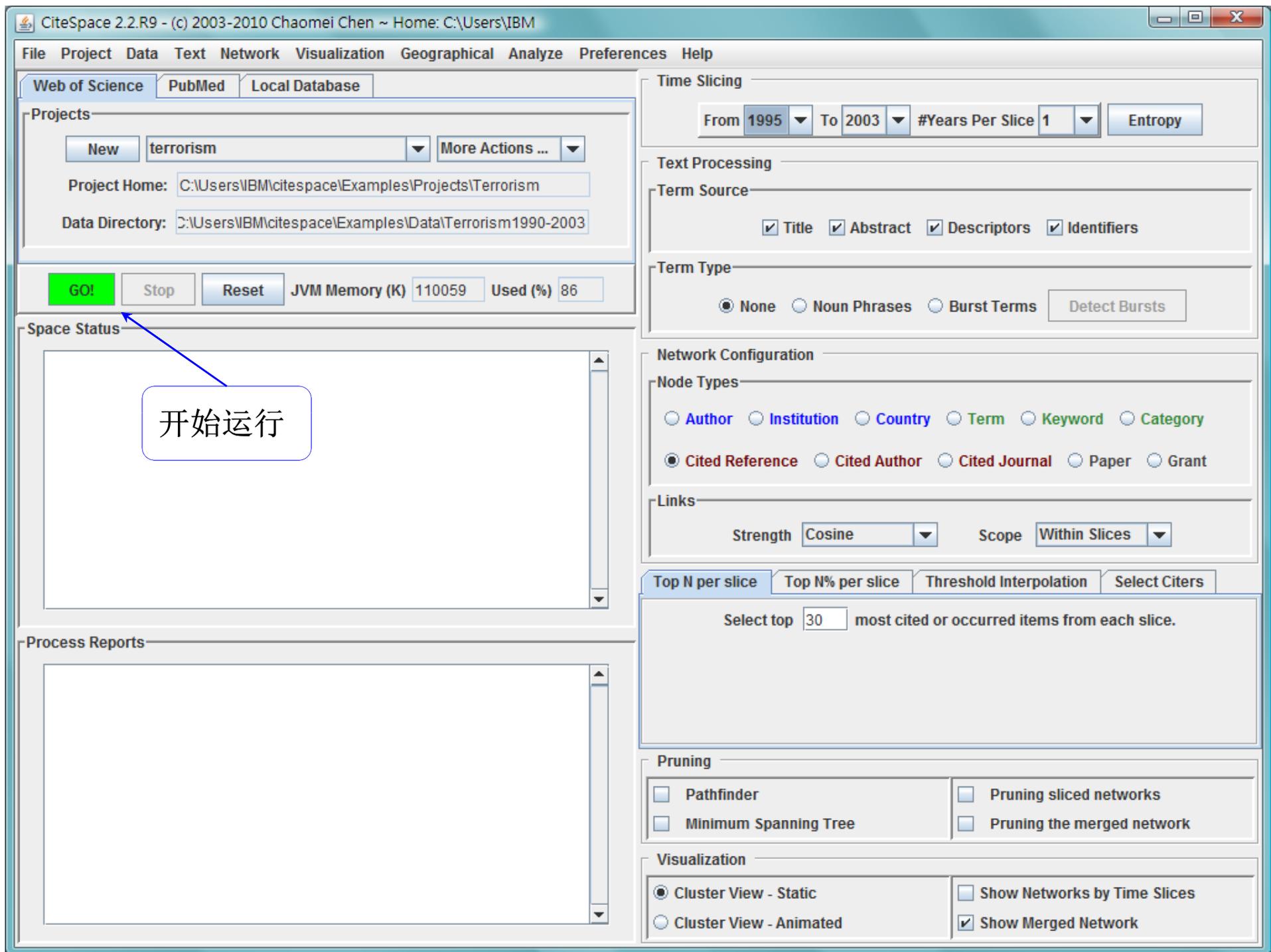
1. CiteSpace供大家无偿使用。
2. 任何后果由使用者自己负责承担。
3. 如果CiteSpace对完成你的论文和研究有帮助, 请按规范引用如下相关文献:

开始



初次使用时，最好先以 CiteSpace 中的 Terrorism 数据样本为例熟悉主要步骤。





CiteSpace 2.2.R9 - (c) 2003-2010 Chaomei Chen ~ Home: C:\Users\IBM

File Project Data Text Network Visualization Geographical Analyze Preferences Help

Web of Science PubMed Local Database

Projects

New terrorism More Actions ...

Project Home: C:\Users\IBM\citespace\Examples\Projects\Terrorism

Data Directory: C:\Users\IBM\citespace\Examples\Data\Terrorism1990-2003

GO! Stop Reset JVM Memory (K) 110059 Used (%) 86

Space Status

开始运行

Process Reports

Time Slicing

From 1995 To 2003 #Years Per Slice 1 Entropy

Text Processing

Term Source

Title Abstract Descriptors Identifiers

Term Type

None Noun Phrases Burst Terms Detect Bursts

Network Configuration

Node Types

Author Institution Country Term Keyword Category
 Cited Reference Cited Author Cited Journal Paper Grant

Links

Strength Cosine Scope Within Slices

Top N per slice Top N% per slice Threshold Interpolation Select Citers

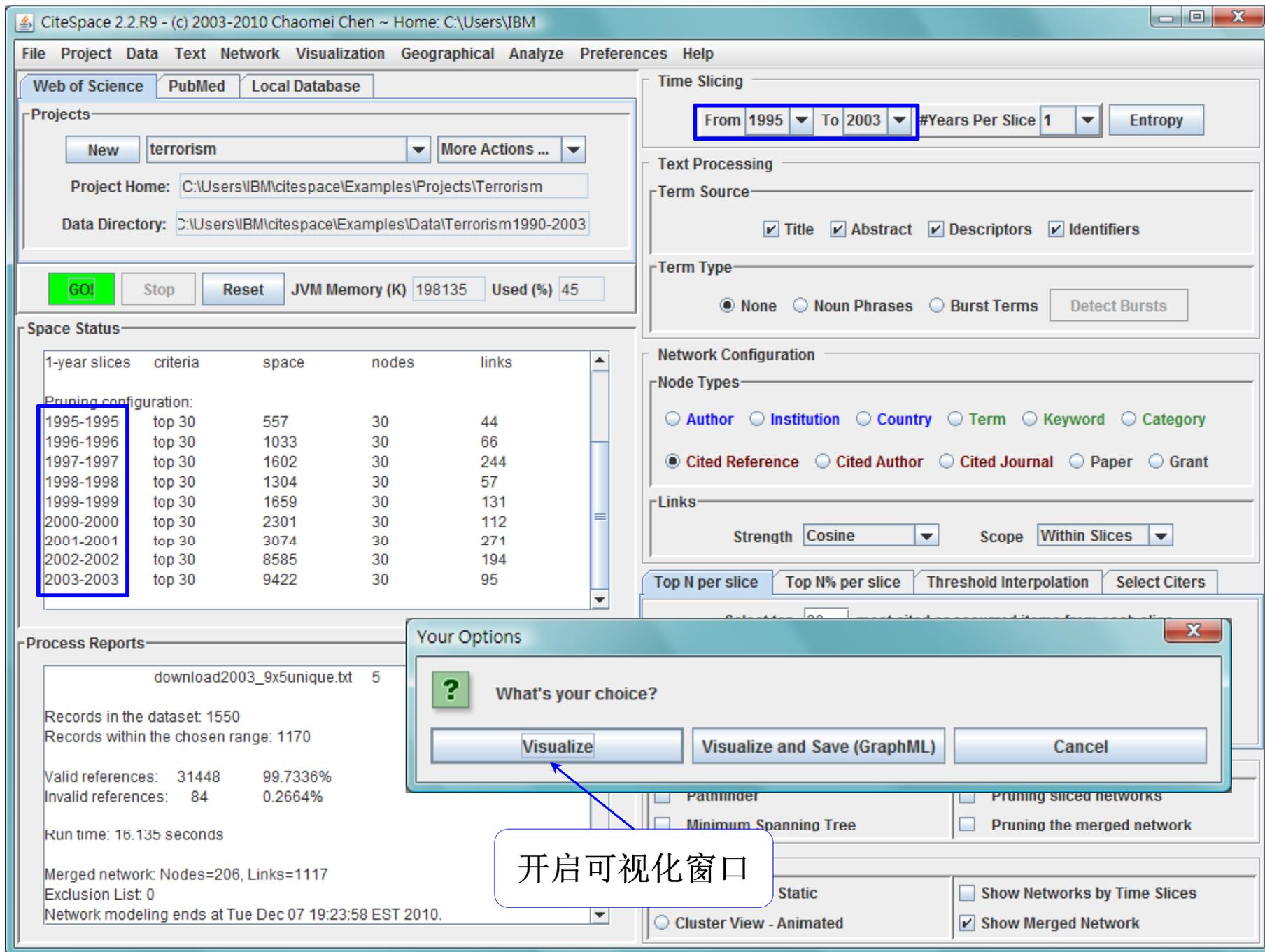
Select top 30 most cited or occurred items from each slice.

Pruning

Pathfinder Pruning sliced networks
 Minimum Spanning Tree Pruning the merged network

Visualization

Cluster View - Static Show Networks by Time Slices
 Cluster View - Animated Show Merged Network



开启可视化窗口



1. 开始自动聚类

CiteSpace: Display Merged - (c) 2003-2010 Chaomei Chen - Project Home: C:\Users\IBM\citespace\Examples\Projects\Terrorism

File Export Layout Display Filtering Clustering Help

Spotlight Citation Burst Link Walkthrough

Text search: q1 | q2 ... # clusters: 25

Cluster Themes Quick Guide

Burst Detection Search Results

Control Panel

Term Labeling

By Centrality Show Frequency

Threshold 1

Font Size 100

Node Size 10

Article Labeling

By Centrality Show Frequency

Threshold 15

Font Size 10

Node Size 30

Cluster Labeling

Font Size 14

Layout

Cluster View Timeline Timezone

Iteration 277 Stretch

Stress 1 0.005

Scale 30.0

Snapshot Color Map Spotlight

Waiting Time 1,200

Darkness 50

Transparency 40

Relaxer 50

Modularity Q=0.6792
Mean Silhouette=0.9094

聚类结果, 25类

Node Details	MeSH Headings - Major Topics	MeSH Headings - Minor Topics											
Freq	Burst	Centrality	Σ	PageRank	Keyword	Author	Year	Title	Source	Vol	Page	HalfLife	Cluster



CiteSpace: Display Merged - (c) 2003-2010 Chaomei Chen - Project Home: C:\Users\IBM\Citespace\Examples\Projects\Terrorism

File Export Layout Display Filtering Clustering Help

Background Color Ctrl-C
 Black Background Ctrl-B
 White Background Ctrl-W
 Colormap Palette
 Colormap: Darkness
 Set Level of Transparency
 Node Rendering Type
 Node Shape
 Node Size
 Node Fill Color Ctrl-7
 Node Outline Color Ctrl-8
 Uniformed Label Size
 Article Label Color Ctrl-F8
 Term Label Color Ctrl-R
 Similarity Label Color Ctrl-U
 Cluster Label Color Ctrl-NumPad-3
 Cluster Label Proportional to Cluster Size Ctrl-NumPad-6
 Show/Hide Label Outline Ctrl-NumPad /
 Line Shape
 Show/Hide Similarity
 Show/Hide Signature
 Show/Hide Cluster IDs
 Show/Hide Cluster Labels
 Show/Hide Cluster Profile - Convex Hull
 Show/Hide Cluster Profile - Circle
 CSTA Labels

Link Walkthrough

Text search: q1 | q2 ... # clusters 25

Cluster Themes Quick Guide
 Burst Detection Search Results
 Control Panel
 Links to PubMed

#17 preparation
 #12 chemical warfare agent
 #15 blast agent
 #14 ocular injury
 #13 eye injury
 smallpox

显示/清除聚类背景

显示/清除聚类标号

Node Details		MeSH Headings - Major Topics				MeSH Headings - Minor Topics									
Freq	Burst	Centrality	Σ	PageRank	Keyword	Author	Year	Title	Source	Vol	Page	HalfLife	Cluster		
5		0.00	1.00	0.00	RENGSTORFF RH		1994	...	J APPL TOXI...	V14	P115	1	0		
4		0.00	1.00	0.00	BLACK RM		1994	...	J CHROMAT...	V662	P301	3	0		



控制板

CiteSpace: Display Merged - (c) 2003-2010 Chaomei Chen - Project Home: C:\Users\IBM\citespace\Examples\Projects\Terrorism

File Export Layout Display Filtering Clustering Help

Spotlight Citation Burst Link Walkthrough

Text search: q1 | q2 ... # clusters 25

1995 1996 1997 1998 1999 2000 2001 2002 2003

CiteSpace, v. 2.2.R9
December 7, 2010 7:23:10 PM EST
C:\Users\IBM\citespace\Examples\Data\Terrorism\1990-2003
Timespan: 1995-2003 (Slice Length=1)
Selection Criteria: Top 30 per slice
Network: N=206, E=970 (Density=0.0459)
Modularity Q=0.6792
Mean Silhouette=0.9094

#14 ocular injury

#15 blast

#12 chemical warfare agent

#17 preparation

#16 smallpox

#13 eye injury

Cluster Themes Quick Guide

Burst Detection Search Results

Control Panel

Term Labeling

By Centrality Show Frequency

Threshold 1

Font Size 100

Node Size 10

Article Labeling

By Centrality Show Frequency

Threshold 15

Font Size 10

Node Size 30

Cluster Labeling

Font Size 14

Layout

Cluster View Timeline Timezone

Iteration 277 Stretch

Stress 1 0.005

Scale 30.0

Snapshot Color Map Spotlight

Waiting Time 1,200

Darkness 50

Transparency 40

Relaxer 50

Node Details		MeSH Headings - Major Topics				MeSH Headings - Minor Topics									
Freq	Burst	Centrality	Σ	PageRank	Keyword	Author	Year	Title	Source	Vol	Page	HalfLife	Cluster		
5		0.00	1.00	0.00		RENGSTORFF RH	1994	...	J APPL TOXI...	V14	P115	1	0		
4		0.00	1.00	0.00		BLACK RM	1994	...	J CHROMAT...	V662	P301	3	0		

选择需要加注标签的节点类别

调节节点标签字号的大小

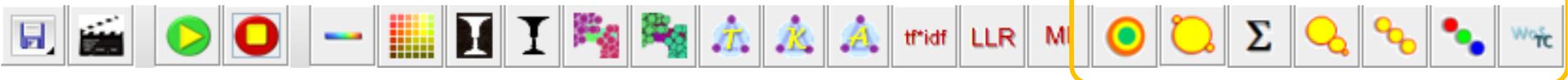
调节节点大小

调节聚类标签字号的大小

切换到Timeline可视化模式

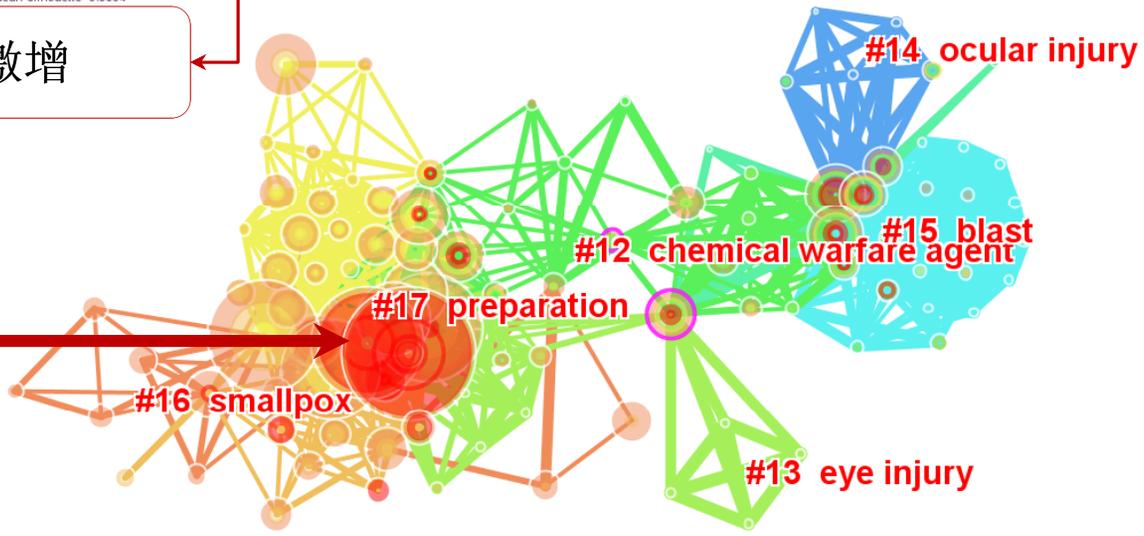
The image shows a 'Control Panel' for a network visualization tool. It is divided into several sections:

- Term Labeling:** Includes a dropdown menu set to 'By Centrality', a 'Show Frequency' checkbox, and sliders for 'Threshold' (1), 'Font Size' (100), and 'Node Size' (10).
- Article Labeling:** Includes a dropdown menu set to 'By Centrality', a 'Show Frequency' checkbox, and sliders for 'Threshold' (15), 'Font Size' (10), and 'Node Size' (30).
- Cluster Labeling:** Includes a 'Font Size' slider set to 14.
- Layout:** Features radio buttons for 'Cluster View' (selected), 'Timeline', and 'Timezone'. It also has an 'Iteration' field (277), a 'Stretch' button, and a 'Stress' slider (1 / 0.005).
- Scale:** A slider set to 30.0.
- Bottom Section:** Contains checkboxes for 'Snapshot' (checked), 'Color Map' (checked), and 'Spotlight' (unchecked). Below these are sliders for 'Waiting Time' (1,200), 'Darkness' (50), 'Transparency' (40), and 'Relaxer' (50).



选择节点大小赋值模式

引文次数激增



Cluster Themes Quick Guide

Burst Detection Search Results

Control Panel

Term Labeling

By Centrality Show Frequency

Threshold 1

Font Size 100

Node Size 10

Article Labeling

By Centrality Show Frequency

Threshold 15

Font Size 10

Node Size 49

Cluster Labeling

Font Size 14

Layout

Cluster View Timeline Timezone

Iteration 277

Stress 1 0.005

Scale 30.0

Snapshot Color Map Spotlight

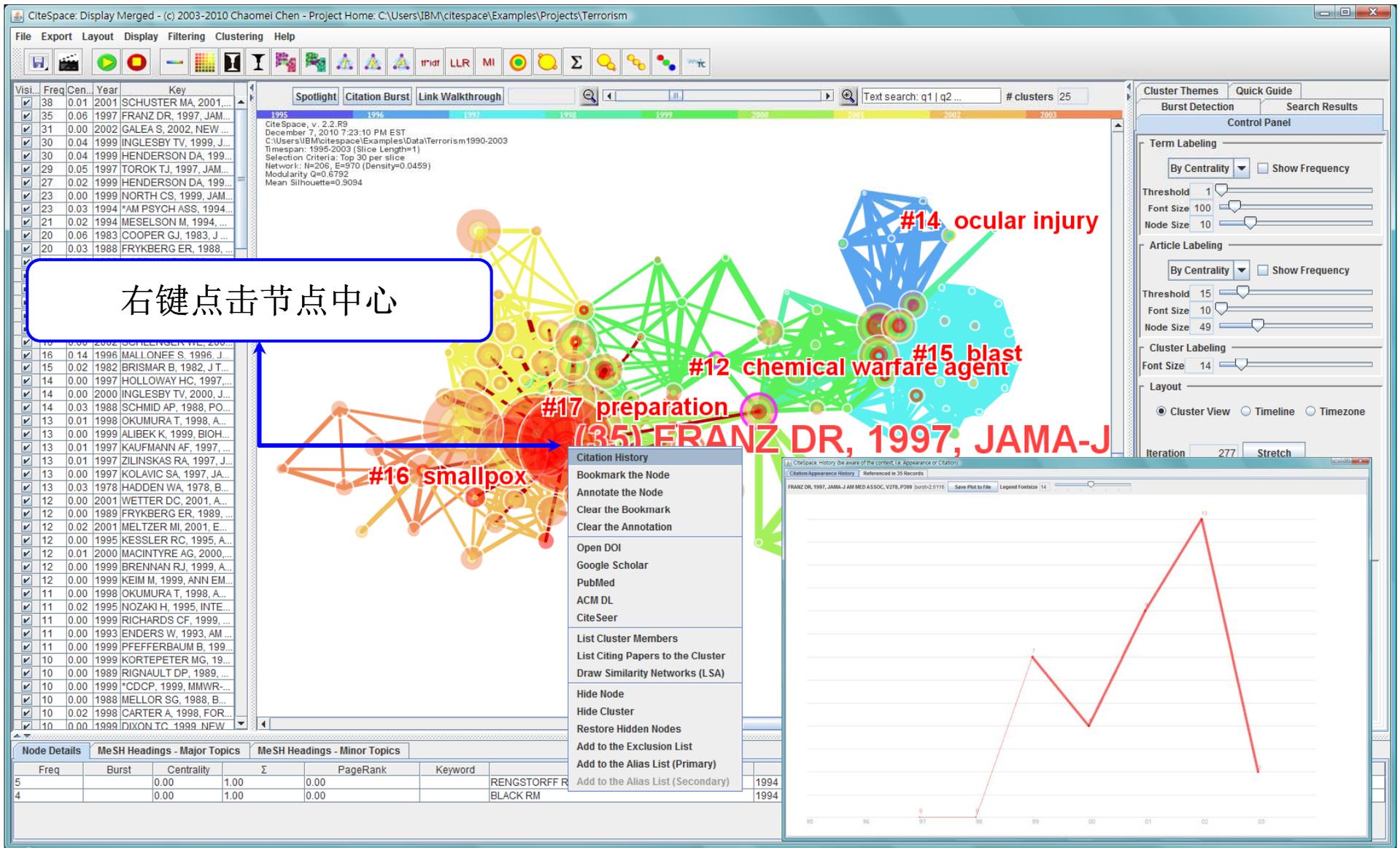
Waiting Time 1,200

Darkness 50

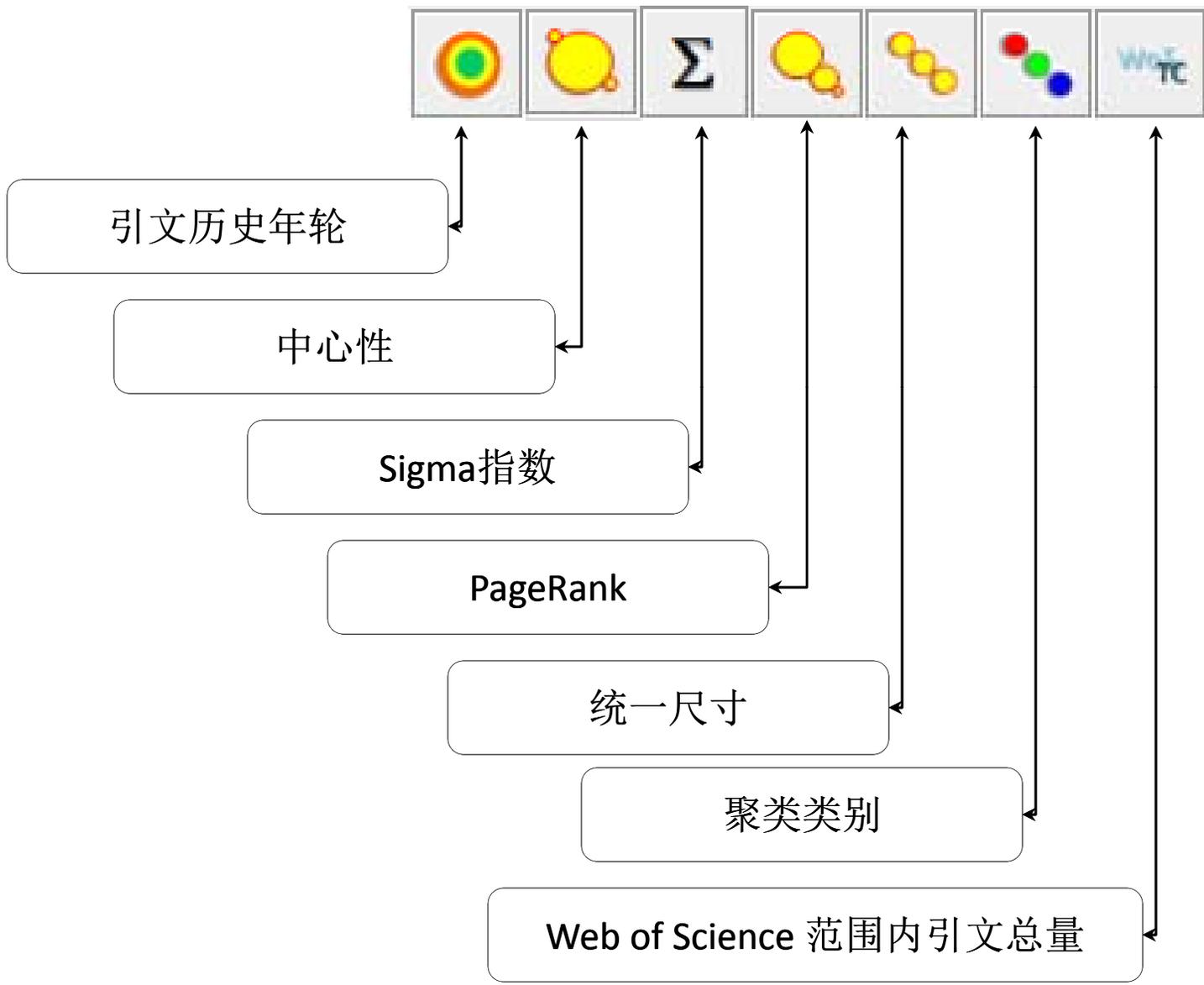
Transparency 40

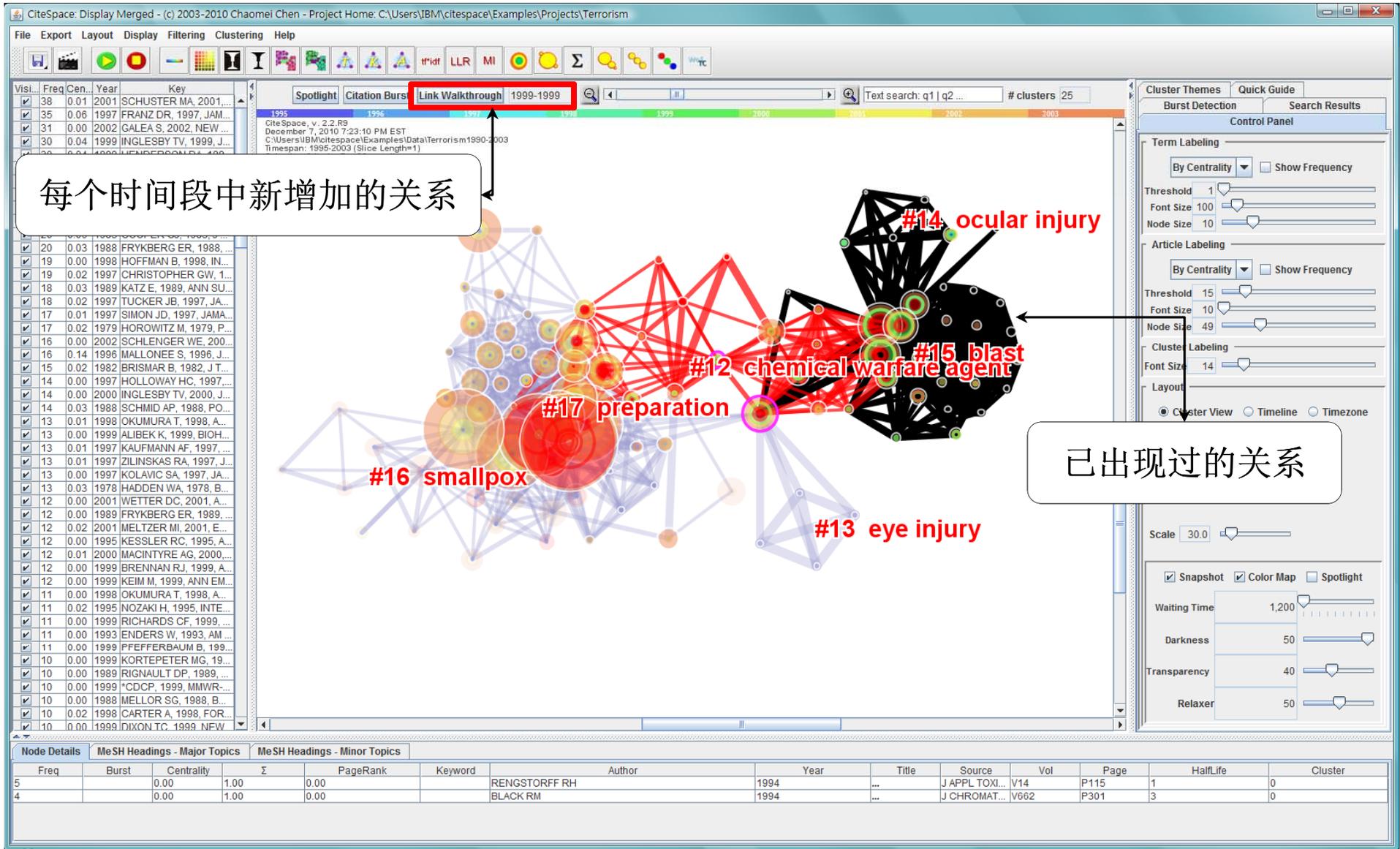
Relaxer 50

Node Details		MeSH Headings - Major Topics				MeSH Headings - Minor Topics									
Visi	Freq	Burst	Centrality	Σ	PageRank	Keyword	Author	Year	Title	Source	Vol	Page	HalfLife	Cluster	
5			0.00	1.00	0.00		RENGSTORFF RH	1994	...	J APPL TOXI...	V14	P115	1	0	
4			0.00	1.00	0.00		BLACK RM	1994	...	J CHROMAT...	V662	P301	3	0	



引文激增 (burst)





CiteSpace: Display Merged - (c) 2003-2010 Chaomei Chen - Project Home: C:\Users\IBM\citespace\Examples\Projects\Terrorism

File Export Layout Display Filtering Clustering Help

1. Clustering (Advanced) Ctrl-NumPad-7
 2. Label Clusters Ctrl-G
 3. Display Labels Selected by Different Algorithms
 4. Summarization of Clusters
 5. List Top Ranked Terms per Cluster by LSA
 6a. View Similarity Networks of Citing Terms (VSM)
 6b. View Citing Networks to Clusters (LSA)
 Expectation Maximization (EM)
 Set the Minimum Number of Words for Labels
 Enable/Disable Cluster Membership Export
 Set Parameters

1998 1999 2000 2001 2002 2003

Text search: q1 | q2... # clusters 25

Cluster Themes Quick Guide
 Burst Detection Search Results
 Control Panel
 Term Labeling
 By Centrality Show Frequency
 Threshold 1
 Font Size 100
 Node Size 10
 Article Labeling
 By Centrality Show Frequency
 Threshold 15

各聚类主要指标列表

Save/Show as HTML: cluster_summary.html

Select	Cluster ID	Size	Silhouette	mean(Year)	Top Terms (tf*idf weighting)	Top Terms (log-likelihood rat...)	Terms (mutual information)
<input type="checkbox"/>	17	46	0.83	1996	(15.2) preparation; (13.8) m...	biological terrorism (68.46, ...	patient
<input type="checkbox"/>	15	33	0.734	1981	(11.47) blast; (10.9) lung; (1...	ocular injury (38.74, 1.0E-4);...	suicidal terrorism
<input type="checkbox"/>	8	23	0.304	1988	(12.31) mick; (12.31) nick; (...	mick (38.52, 1.0E-4); nick (3...	nuclear terrorism
<input type="checkbox"/>	22	17	0.869	1998	(14.32) sept; (14.25) septe...	september (108.07, 1.0E-4);...	history
<input type="checkbox"/>	19	9	0.855	1988	(11.66) terrorist assault surv...	terrorist assault survivor (35...	unabomber
<input type="checkbox"/>	12	7	0.936	1995	(8.77) chemical warfare age...	emergency (36.63, 1.0E-4); ...	management
<input type="checkbox"/>	16	7	0.913	2001	(12.99) smallpox; (11.66) sp...	smallpox (61.51, 1.0E-4); bi...	model
<input type="checkbox"/>	23	7	0.755	1988	(8.21) group; (7.63) trauma; ...	coping self-efficacy (15.76, 1...	death
<input type="checkbox"/>	6	6	1	1990	(9.97) abolition; (9.97) nucle...	destruction (35.2, 1.0E-4); m...	medical care
<input type="checkbox"/>	18	6	1	1992	(11.66) regional security; (1...	regional security (52.24, 1.0...	...
<input type="checkbox"/>	21	6	0.794	1989	(11.66) liberal democracy; (...	liberal democracy (47.24, 1.0...	internal security policy
<input type="checkbox"/>	14	5	0.895	1988	(6.28) ocular injury; (5.69) o...	oklahoma city bombing (17...	oklahoma city bombing
<input type="checkbox"/>	3	4	1	1988	(8.77) indigenous guatemal...	indigenous guatemalan refu...	analysis
<input type="checkbox"/>	13	4	0.967	1983	(8.21) eye injury; (8.21) sau...	eye injury (27.03, 1.0E-4); sa...	eye injury
<input type="checkbox"/>	4	3	1	1980	(8.77) press coverage; (7.22...	construction (35.39, 1.0E-4);...	...
<input type="checkbox"/>	11	3	1	1990	(8.77) american terrorist sta...	american terrorist state (27...	women
<input type="checkbox"/>	20	3	0.882	1994	(8.77) social response; (8.7...	social response (27.54, 1.0...	internal security policy
<input type="checkbox"/>	24	3	1	1989	(8.77) abduction; (8.77) vari...	abduction (30.24, 1.0E-4); v...	children
<input type="checkbox"/>	0	2	1	1994	(4.04) exposure; (3.29) act,	acute sarin poisoning diagn...	patient
<input type="checkbox"/>	1	2	1	1994	(7.07) kurd;	kurd (30.75, 1.0E-4); septe...	...
<input type="checkbox"/>	2	2	1	1996	(7.07) tourism; (7.07) collect...	collective action (15.87, 1.0E...	history
<input type="checkbox"/>	5	2	1	1992	(7.07) laden terrorism; (7.07...	laden terrorism (17.04, 1.0E...	role
<input type="checkbox"/>	7	2	1	1996	(4.04) model; (3.64) transna...	transnational terrorism (11...	model
<input type="checkbox"/>	9	2	1	1991	(3.64) transnational terroris...	transnational terrorism (21...	...
<input type="checkbox"/>	10	2	1	1992	(7.07) understanding attack;...	tourist (23.13, 1.0E-4); unde...	...