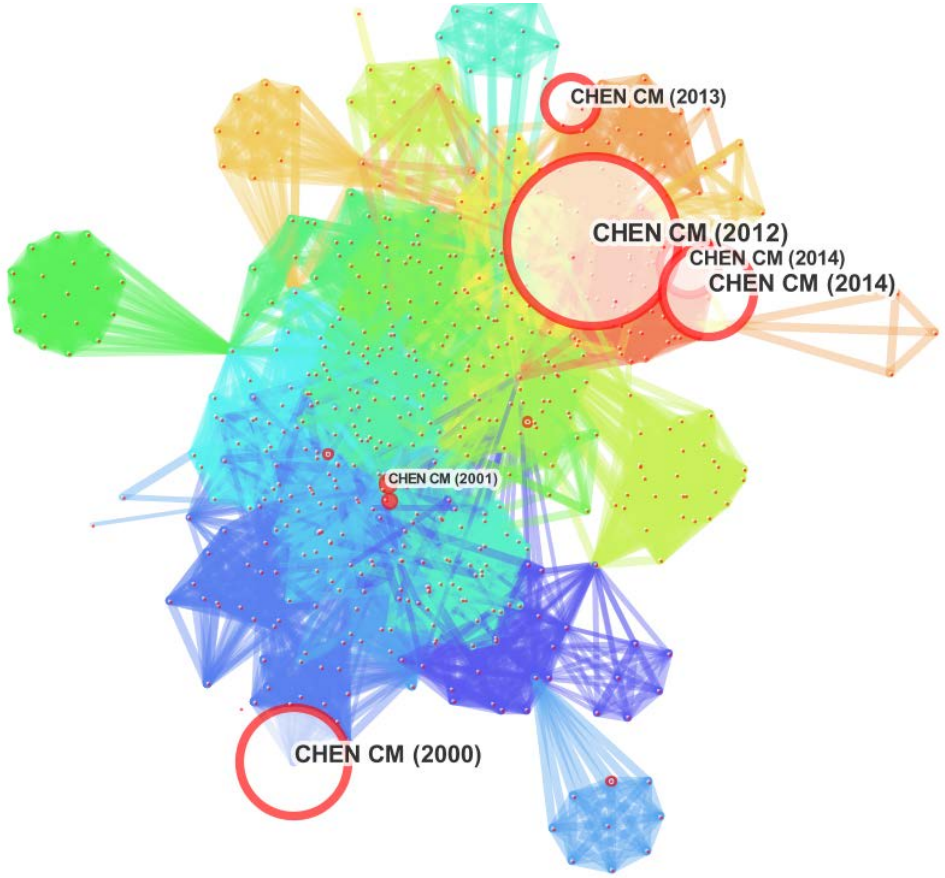
CiteSpace文献对WoS文献使用的分析

——如何使用CiteSpace的一组示范及常见问题解答之（之十六）



李杰 陈超美

2015年10月15日

小提示

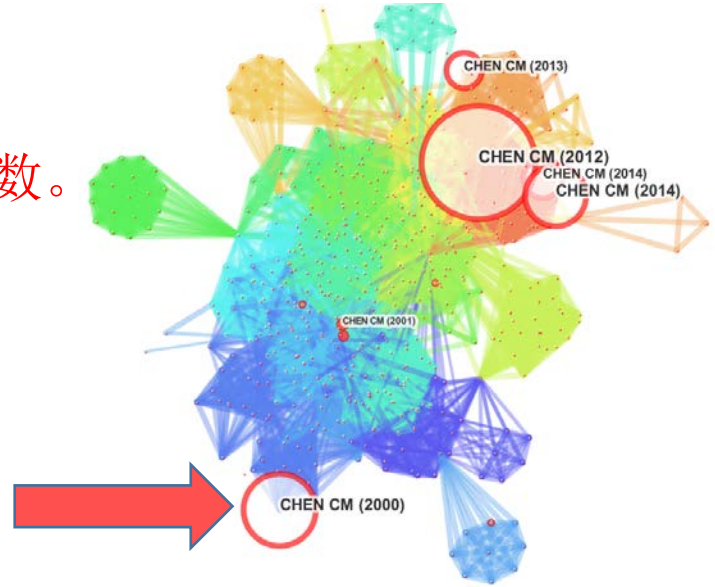
CiteSpace版本至少为：4.0.R2.64-bit.public.10.14.2015
使用最新的Web of Science下载得到的数据

写在前面

- Web of Science的记录格式最近增加了几个新字段，包括U1和U2.

  详见：http://images.webofknowledge.com/WOKRS519B3/help/WOK/hp_usage_score.html
- Last 180 days. This is the count of the number of times the full text of a record has been accessed or a record has been saved in the last 180 days. This count can move up or down as the end date of the fixed period advances.
- Since 2013. This is the count of the number of times the full text of a record has been accessed or a record has been saved since February 1, 2013. This count can increase or remain static over time.
- U1: 近180天内，全文的访问次数，或保存该记录的次数。
- U2: 2013年 2 月 1 日至今的全文的访问次数，或保存该记录的次数。

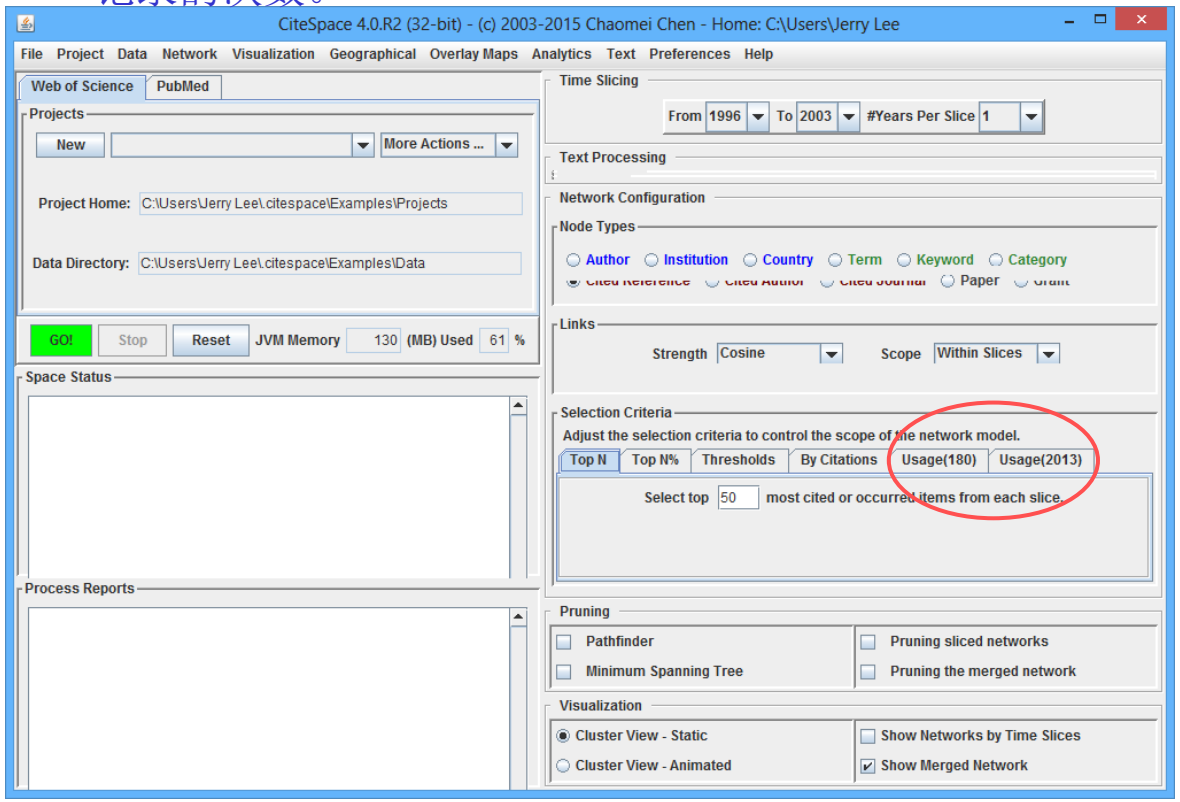
- CiteSpace 4.0.R2可以在共被引网络中以白底红圈显示这两组数值

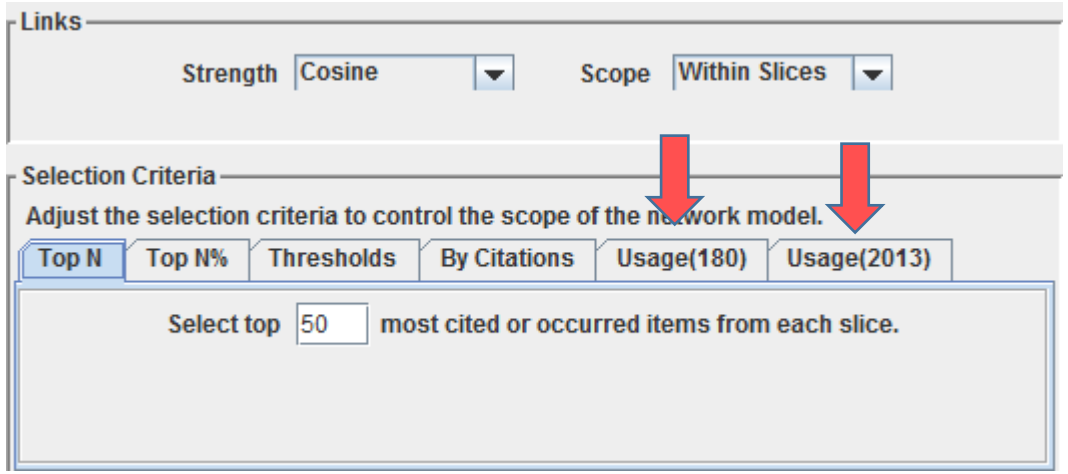


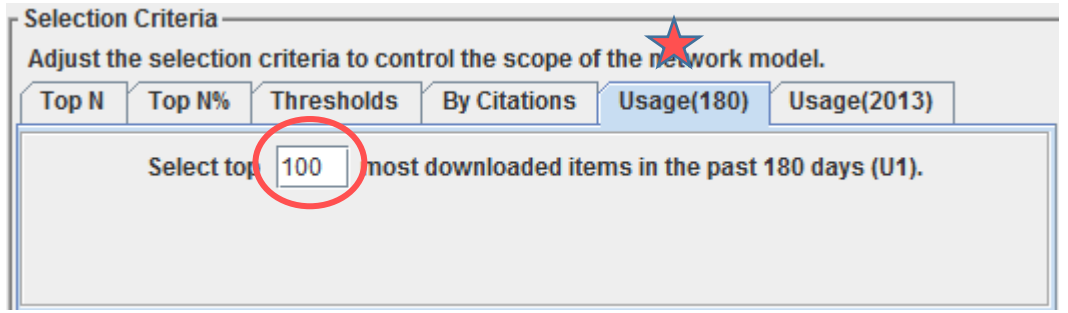
界面发生的变化，红圈为新增加的功能。该功能可以作为新的数据初步分析时筛选之用。

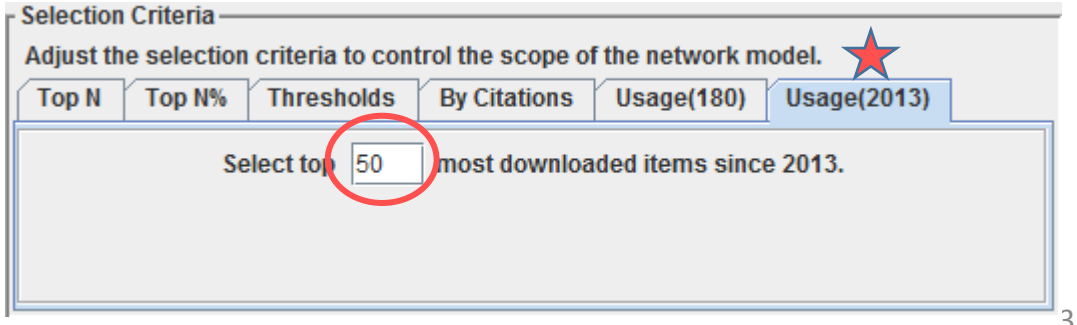
U1: 近180天内，全文的访问次数，或保存该记录的次数。

U2: 2013年 2 月 1 日至今的全文的访问次数，或保存该记录的次数。



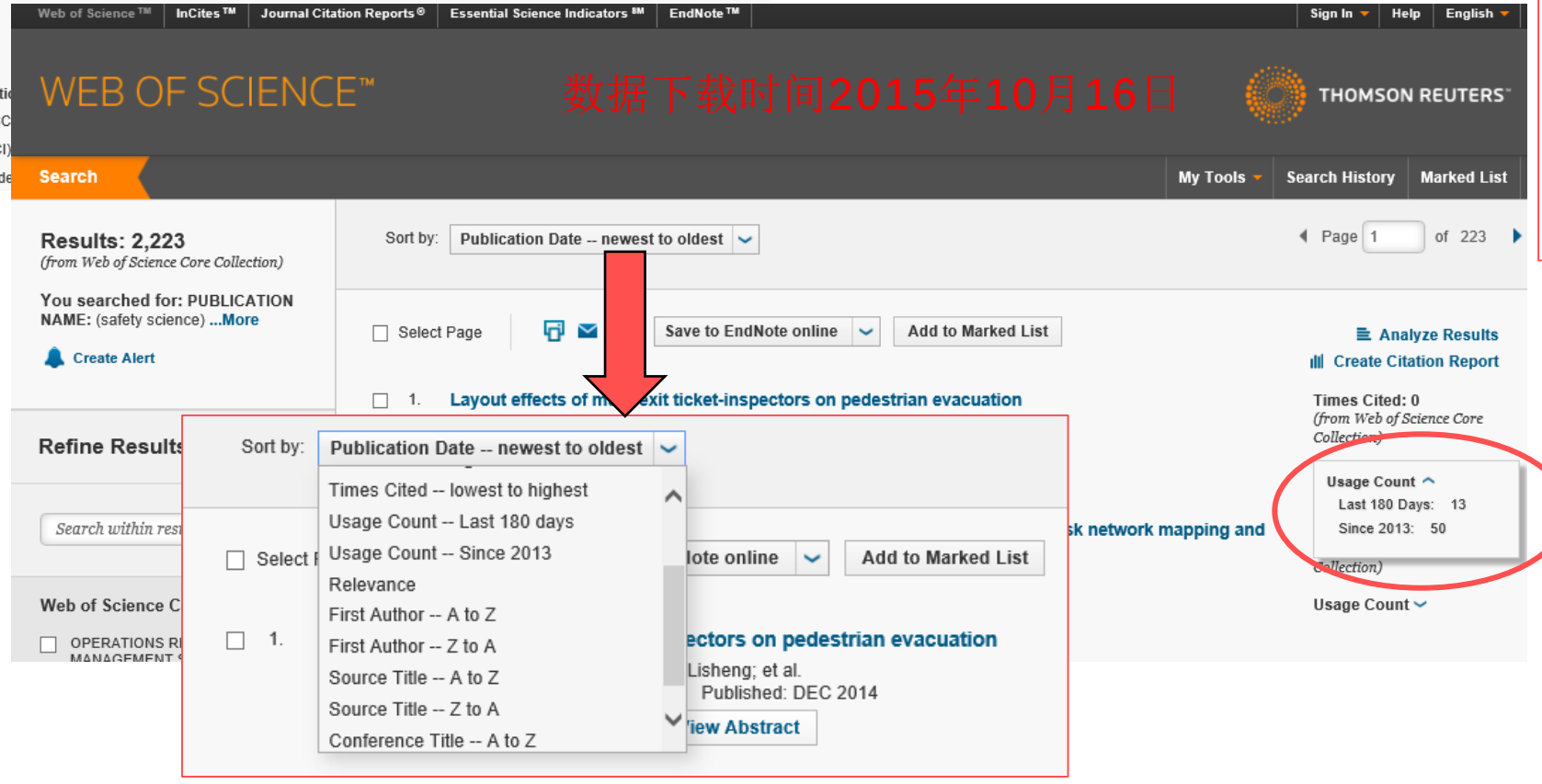


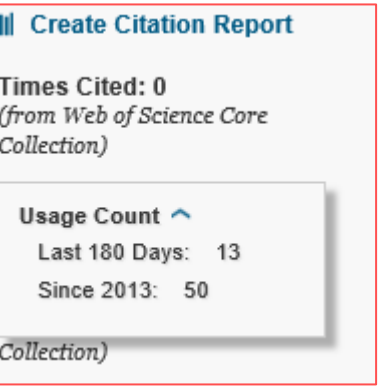




这里以获取Safety Science期刊上截止2014年的数据为例。
检索得到的实际时间为1991-2014

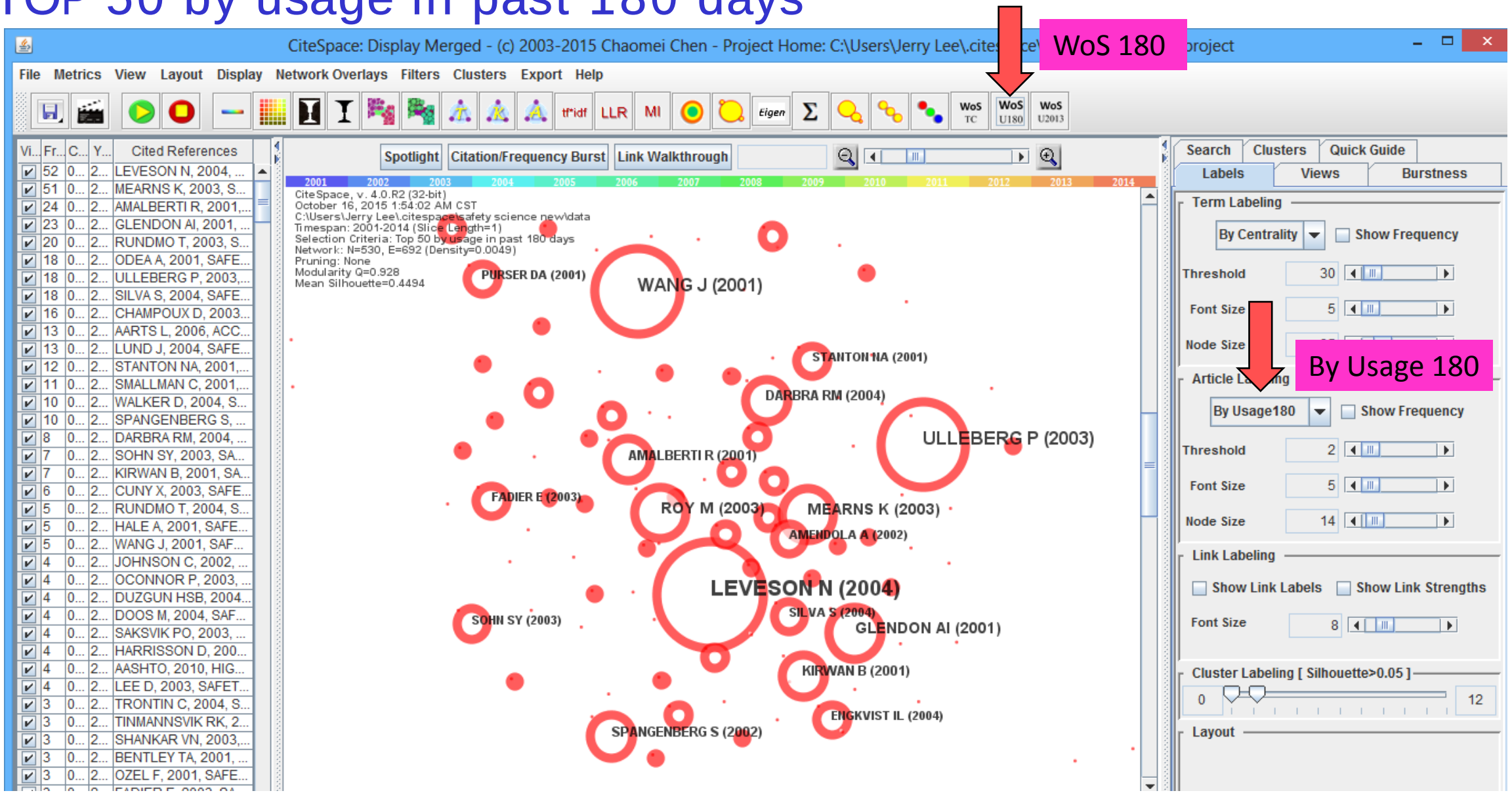
数据获取步骤与早期的Web of Science 步骤一样。
这里标记处数据库所更新的位置。





基于期刊Safety Science的分析结果

TOP 50 by usage in past 180 days



Vi...	Fr...	C...	Y...	Cited References
✔	52	0...	2...	LEVESON N, 2004, ...
✔	51	0...	2...	MEARNS K, 2003, S...
✔	24	0...	2...	AMALBERTI R, 2001,...
✔	23	0...	2...	GLENDON AI, 2001, ...
✔	20	0...	2...	RUNDMO T, 2003, S...
✔	18	0...	2...	ODEA A, 2001, SAFE...
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✔	13	0...	2...	LUND J, 2004, SAFE...
✔	12	0...	2...	STANTON NA, 2001,...
✔	11	0...	2...	SMALLMAN C, 2001,...
✔	10	0...	2...	WALKER D, 2004, S...
✔	10	0...	2...	SPANGENBERG S, ...
✔	8	0...	2...	DARBRA RM, 2004, ...
✔	7	0...	2...	SOHN SY, 2003, SA...
✔	7	0...	2...	KIRWAN B, 2001, SA...
✔	6	0...	2...	CUNY X, 2003, SAFE...
✔	5	0...	2...	RUNDMO T, 2004, S...
✔	5	0...	2...	HALE A, 2001, SAFE...
✔	5	0...	2...	WANG J, 2001, SAF...
✔	4	0...	2...	JOHNSON C, 2002, ...
✔	4	0...	2...	OCONNOR P, 2003, ...
✔	4	0...	2...	DUZGUN HSB, 2004...
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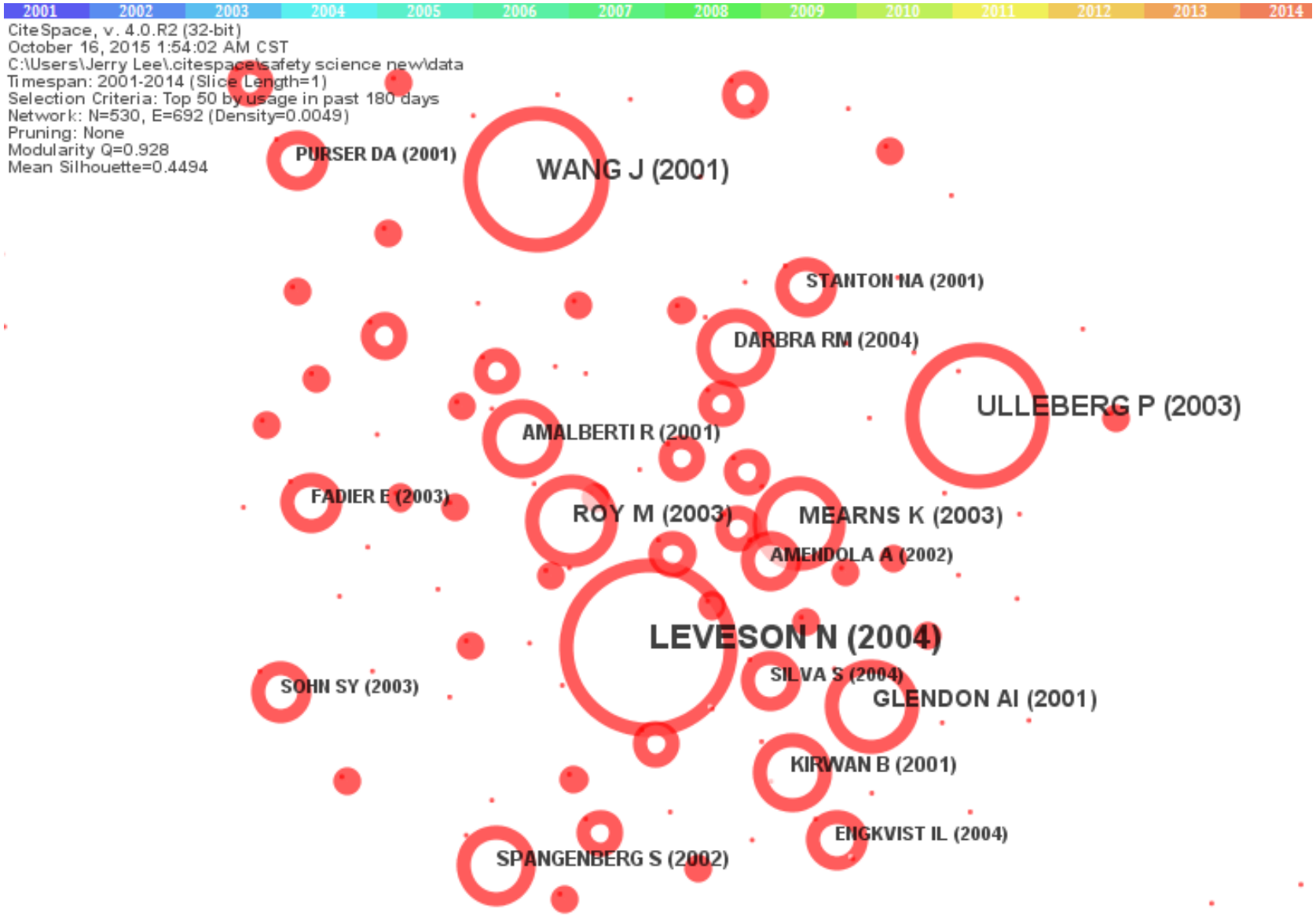
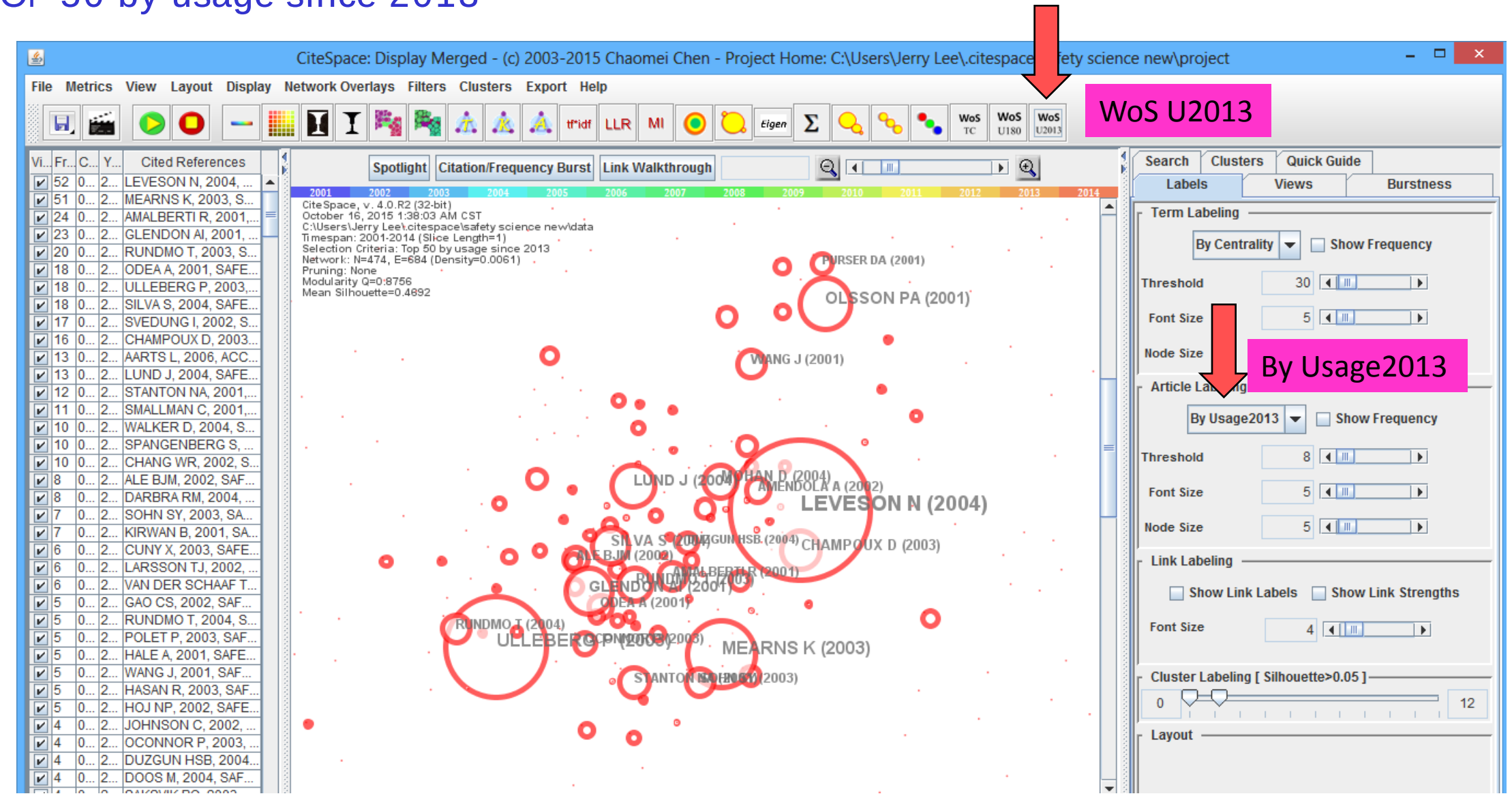
✔	4	0...	2...	LEE D, 2003, SAFET...
✔	3	0...	2...	TRONTIN C, 2004, S...
✔	3	0...	2...	TINMANNSVIK RK, 2...
✔	3	0...	2...	SHANKAR VN, 2003,...
✔	3	0...	2...	BENTLEY TA, 2001, ...
✔	3	0...	2...	OZEL F, 2001, SAFE...

这里把文献网络的连线透明度设置为0

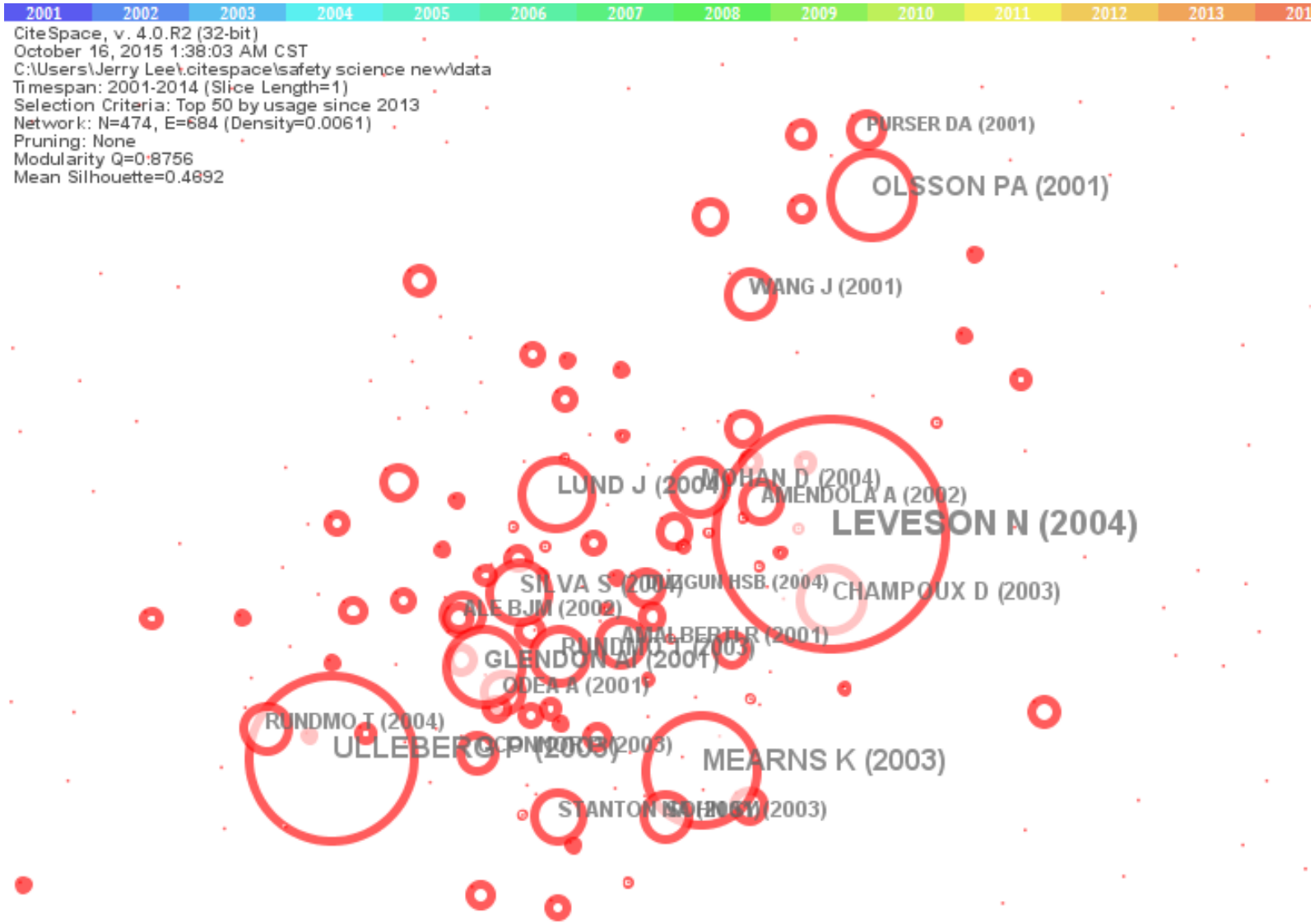
TOP 50 by usage in past 180 days



TOP 50 by usage since 2013

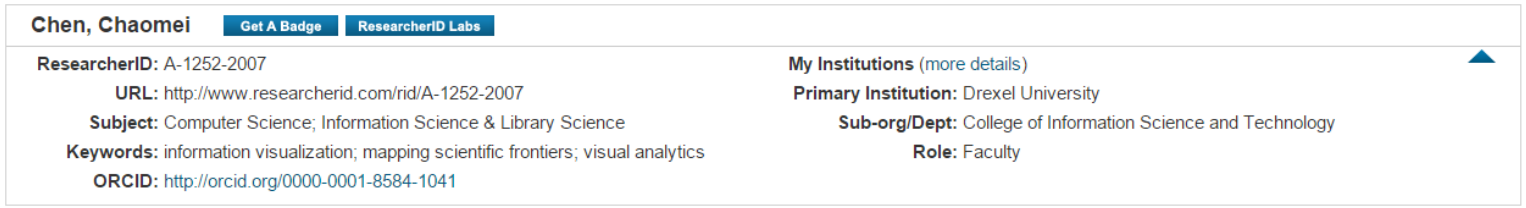


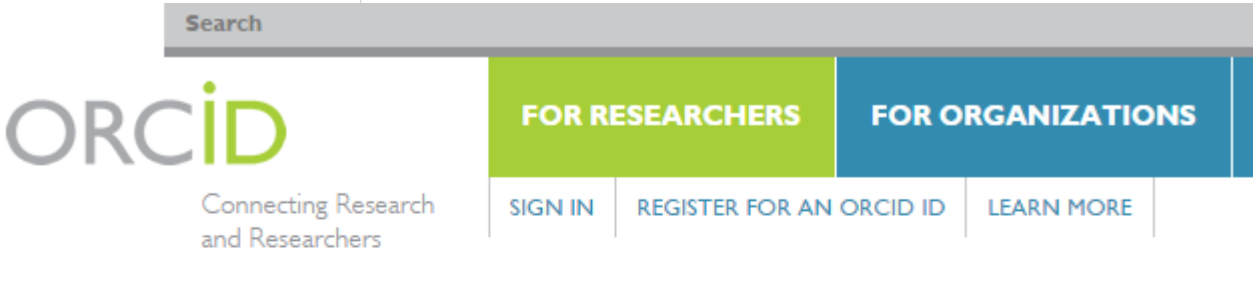
TOP 50 by usage since 2013



基于作者的分析结果

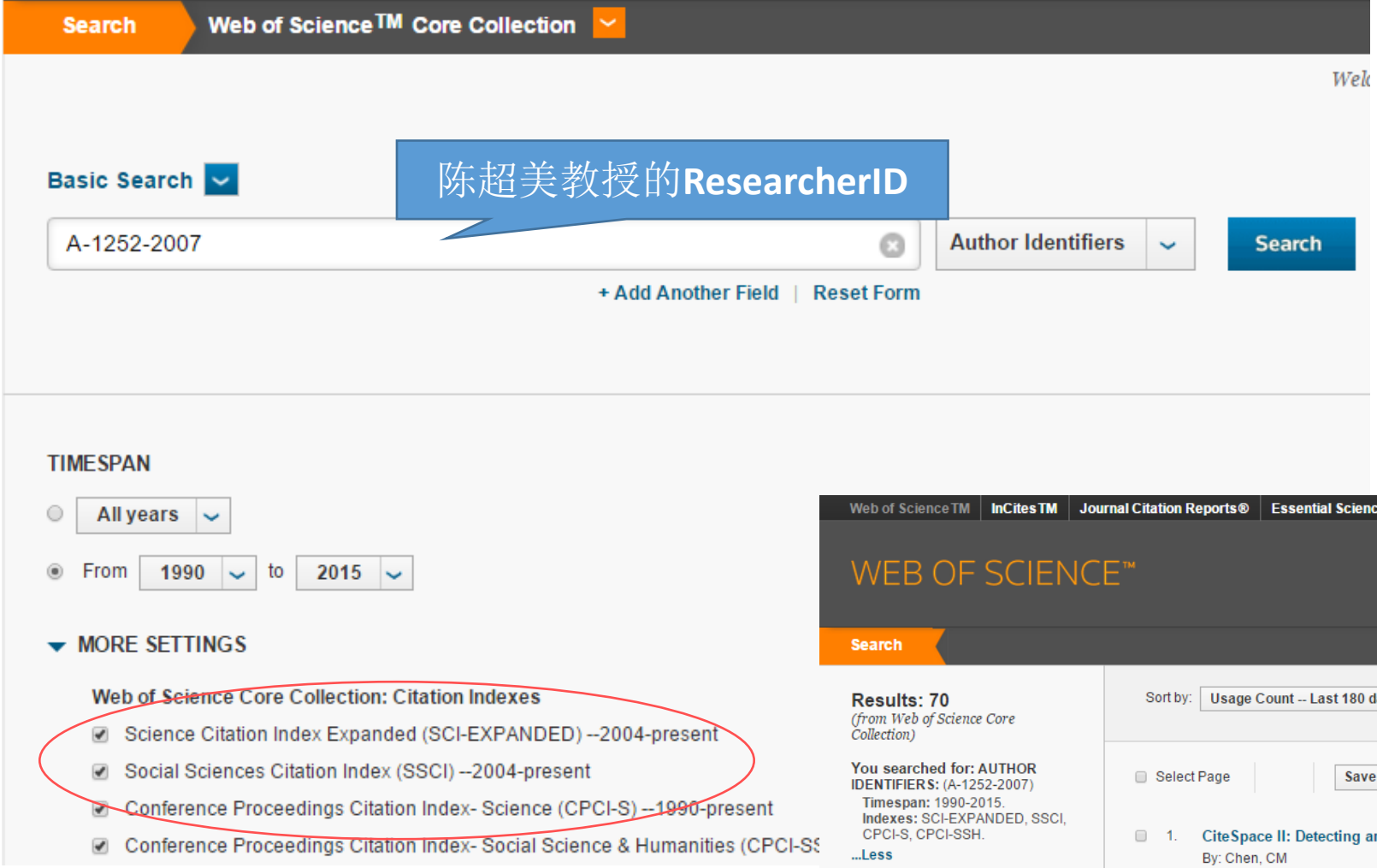
这里的案例以陈超美教授的论文为例

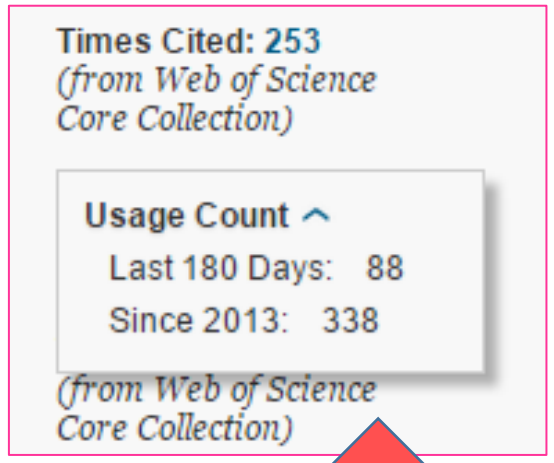


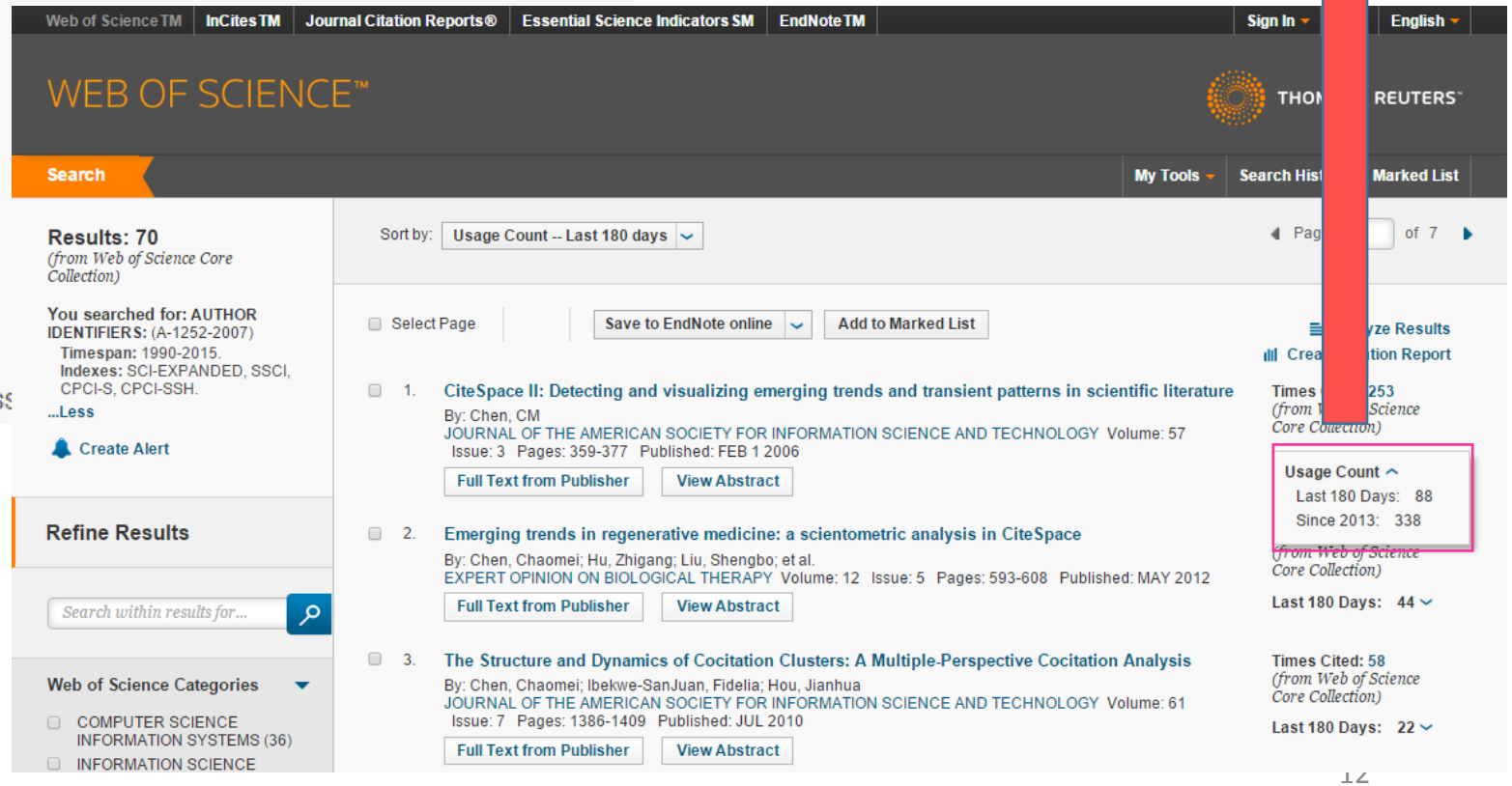


为了准确地得到陈超美教授的论文，这里我们使用其唯一的学术身份证来获取。

作者	ResearcherID	ORCID 号
Chen, Chaomei	A-1252-2007	http://orcid.org/0000-0001-8584-1041





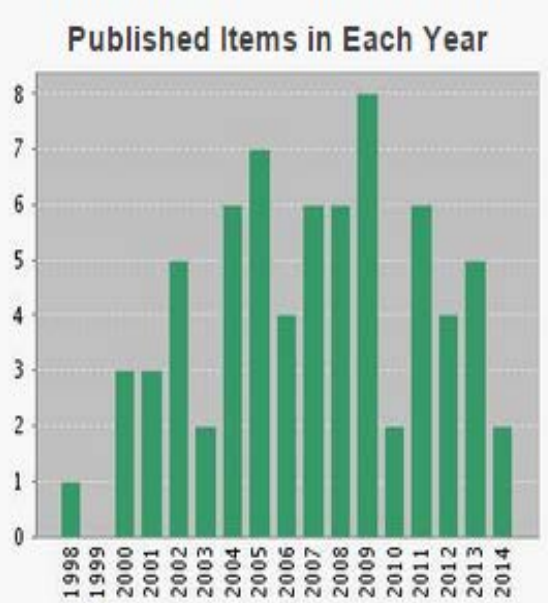


小提示

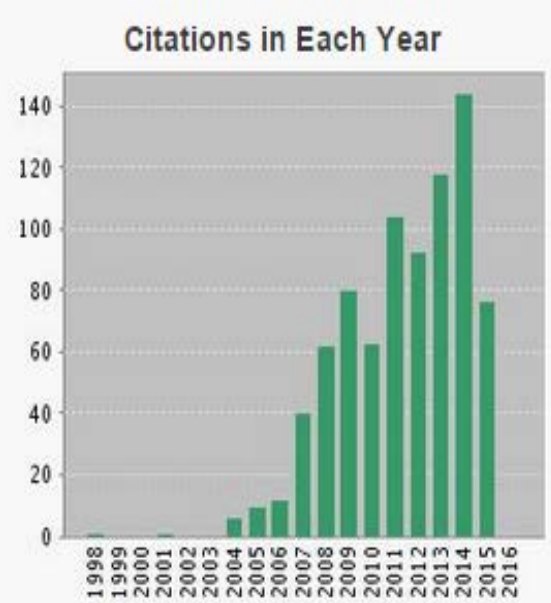
使用的数据库信息如上！各个高校购买是有差异的，请注意！

Use the checkboxes below to view the records. You can choose to view those selected records, o

View Records / Exclude Records	Field: Publication Years	Record Count	% of 70	Bar Chart
	2009	8	11.429 %	
	2005	7	10.000 %	
	2004	6	8.571 %	
	2007	6	8.571 %	
	2008	6	8.571 %	
	2011	6	8.571 %	
	2002	5	7.143 %	
	2013	5	7.143 %	
	2006	4	5.714 %	
	2012	4	5.714 %	
	2000	3	4.286 %	
	2001	3	4.286 %	
	2003	2	2.857 %	
	2010	2	2.857 %	
	2014	2	2.857 %	
	1998	1	1.429 %	
View Records / Exclude Records	Field: Publication Years	Record Count	% of 70	Bar Chart



The latest 20 years are displayed.

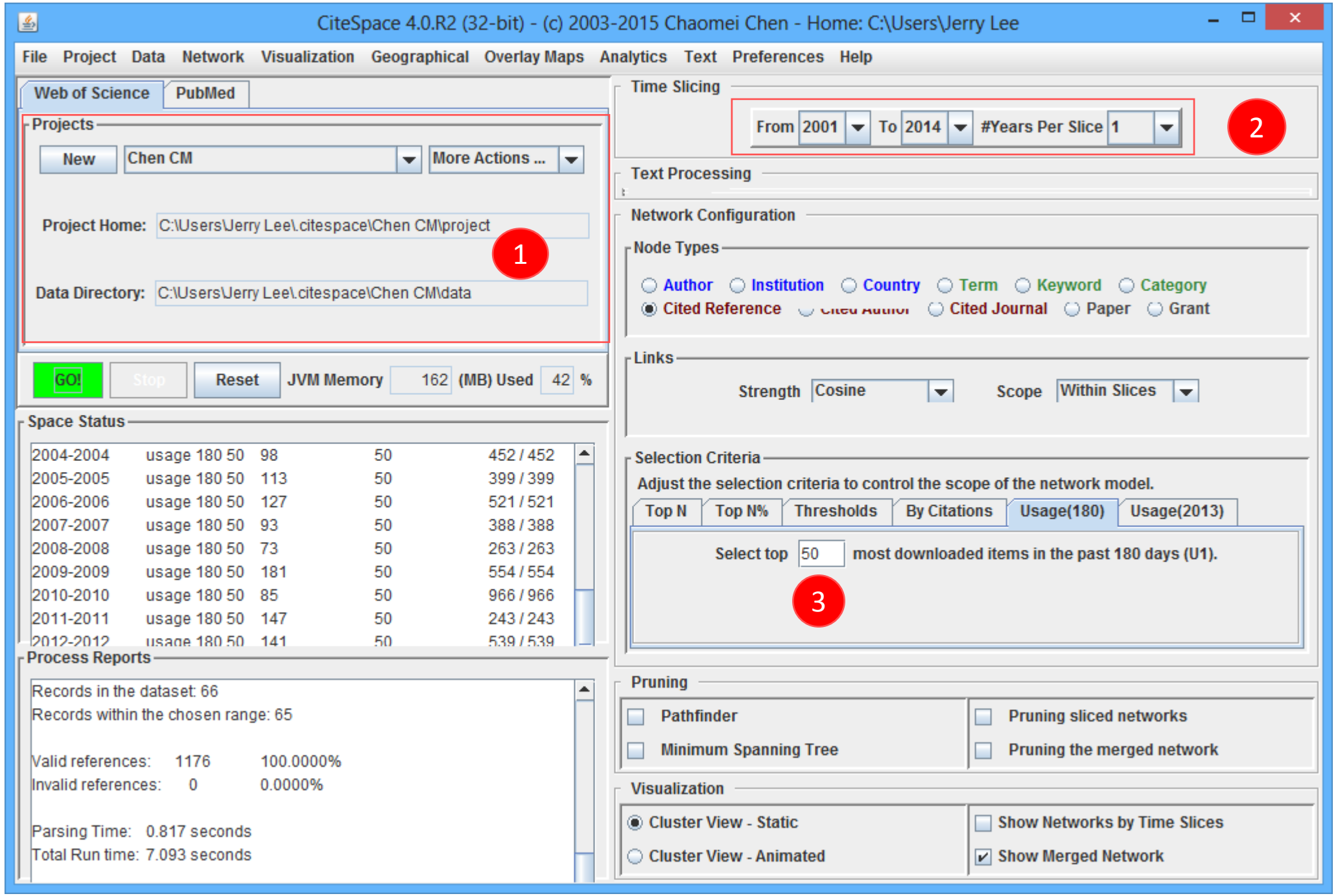


The latest 20 years are displayed.

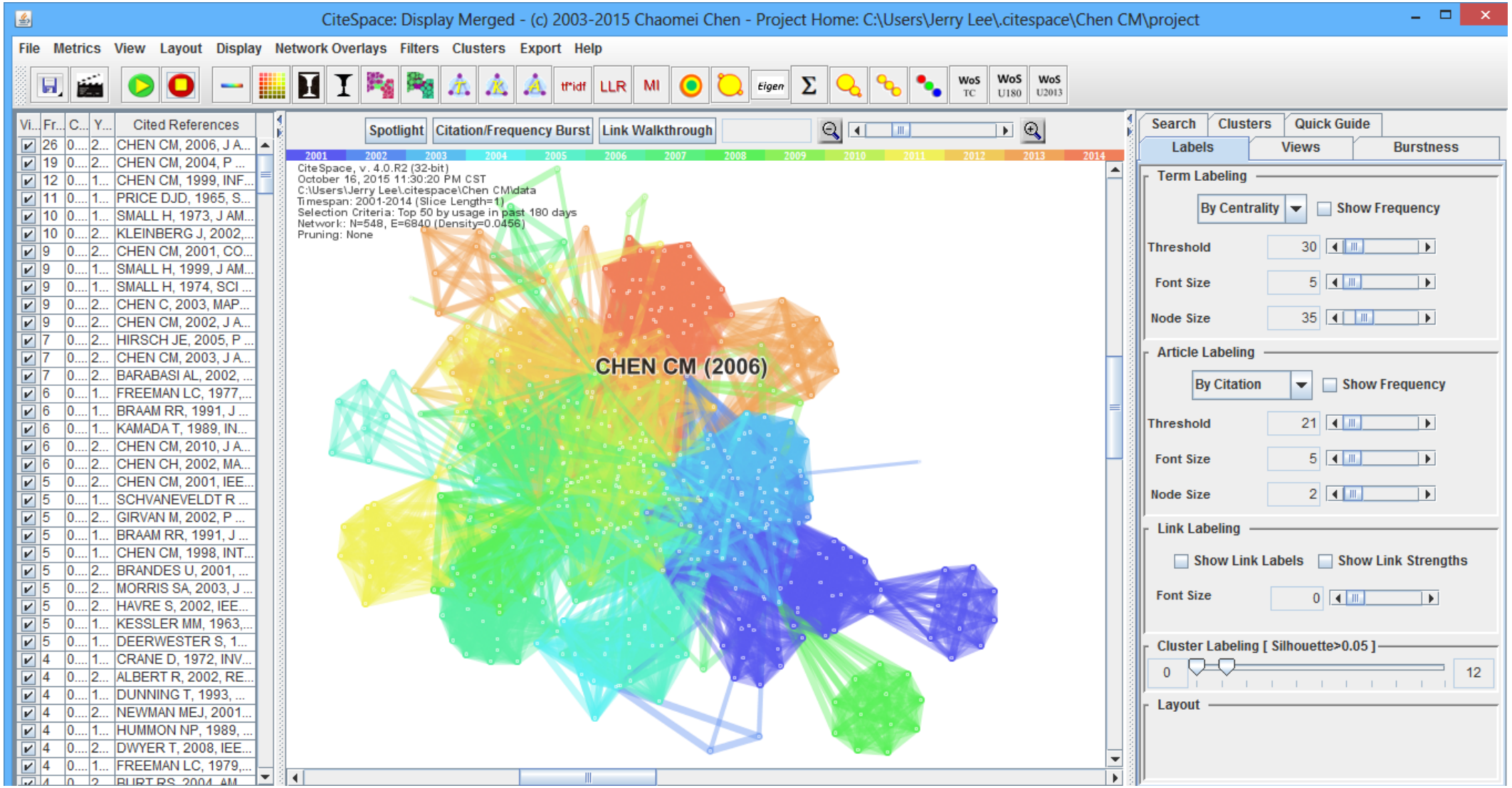
Use the checkboxes to remove individual items from this Citation Report
or restrict to items published between 1990 and 2015 Go

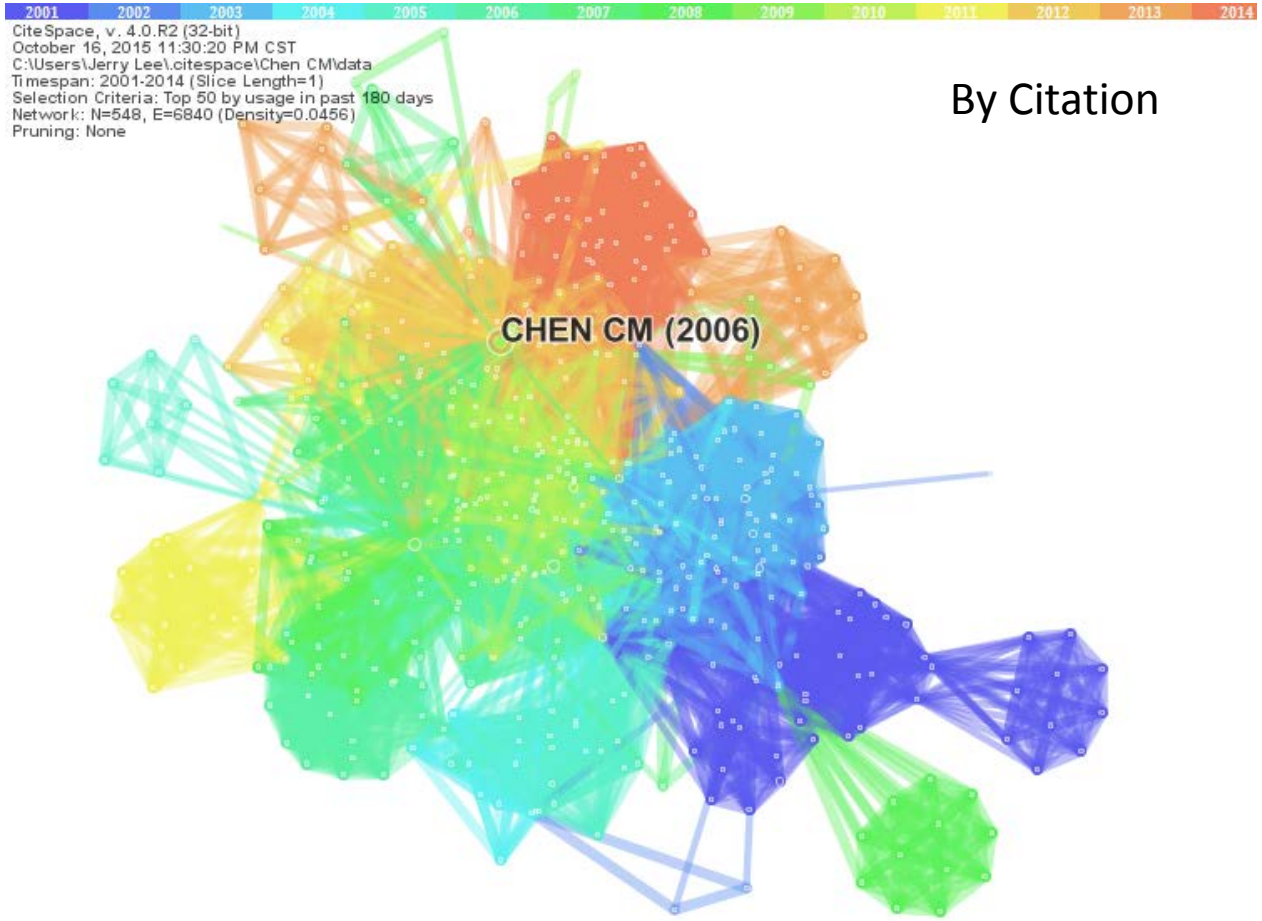
	93	118	144	77	0	811	45.06
1. **CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature** By: Chen, CM JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY Volume: 57 Issue: 3 Pages: 359-377 Published: FEB 1 2006	27	36	41	19	0	253	25.30
2. **Searching for intellectual turning points: Progressive knowledge domain visualization** By: Chen, CM Conference: Colloquium on Mapping Knowledge Domains Location: Natl Acad Sci & Engn, Arnold & Mable Beckman Ctr, Irvine, CA Date: MAY 09-11, 2003 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Volume: 101 Supplement: 1 Pages: 5303-5310 Published: APR 6 2004	16	11	26	5	0	131	10.92
3. **The Structure and Dynamics of Cocitation Clusters: A Multiple-Perspective Cocitation Analysis** By: Chen, Chaomei; Ibekwe-SanJuan, Fidelia; Hou, Jianhua JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY Volume: 61 Issue: 7 Pages: 1386-1409 Published: JUL 2010	11	12	15	7	0	58	9.67

参数设置情况！

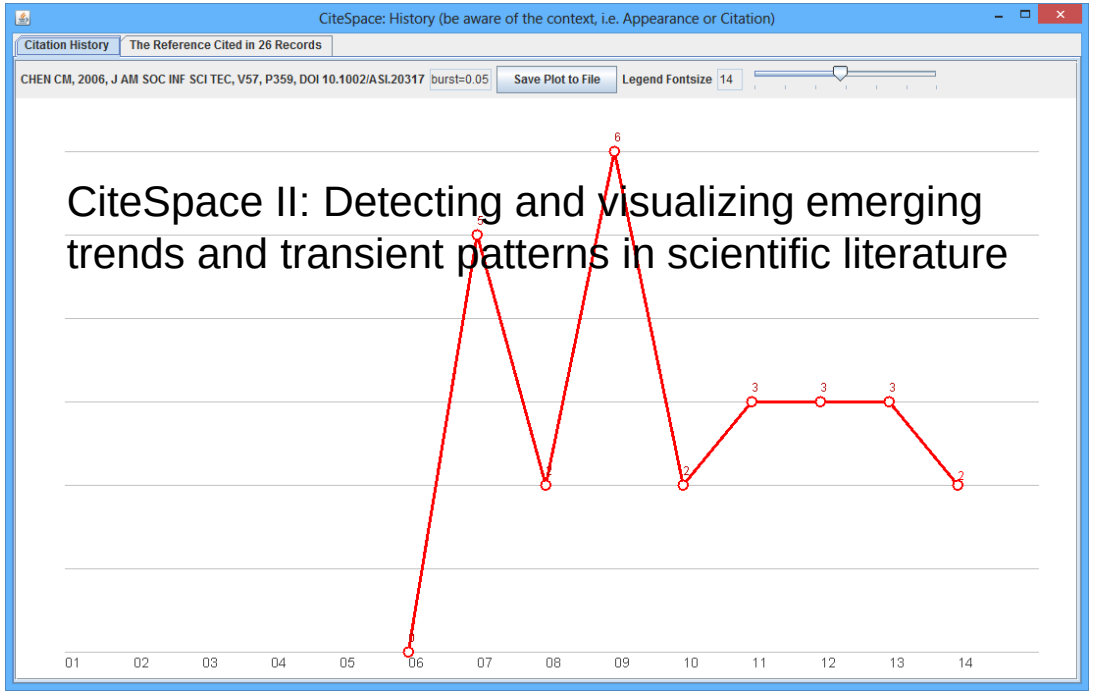

CiteSpace 4.0.R2 (32-bit) - (c) 2003-2015 Chaomei Chen - Home: C:\Users\Jerry Lee
File Project Data Network Visualization Geographical Overlay Maps Analytics Text Preferences Help
Web of Science PubMed
Projects
New
Chen CM
More Actions ...
Project Home: C:\Users\Jerry Lee\.citespace\Chen CM\project
Data Directory: C:\Users\Jerry Lee\.citespace\Chen CM\data
1
GO!
Stop
Reset
JVM Memory 162 (MB) Used 42 %
Space Status
2004-2004 usage 180 50 98 50 452 / 452
2005-2005 usage 180 50 113 50 399 / 399
2006-2006 usage 180 50 127 50 521 / 521
2007-2007 usage 180 50 93 50 388 / 388
2008-2008 usage 180 50 73 50 263 / 263
2009-2009 usage 180 50 181 50 554 / 554
2010-2010 usage 180 50 85 50 966 / 966
2011-2011 usage 180 50 147 50 243 / 243
Process Reports
Records in the dataset: 66
Records within the chosen range: 65
Valid references: 1176 100.0000%
Invalid references: 0 0.0000%
Parsing Time: 0.817 seconds
Total Run time: 7.093 seconds
Time Slicing
From 2001 To 2014 #Years Per Slice 1
2
Text Processing
Network Configuration
Node Types
Author Institution Country Term Keyword Category
Cited Reference Cited Author Cited Journal Paper Grant
Links
Strength Cosine Scope Within Slices
Selection Criteria
Adjust the selection criteria to control the scope of the network model.
Top N Top N% Thresholds By Citations Usage(180) Usage(2013)
Select top 50 most downloaded items in the past 180 days (U1).
3
Pruning
Pathfinder
Minimum Spanning Tree
Pruning sliced networks
Pruning the merged network
Visualization
Cluster View - Static
Cluster View - Animated
Show Networks by Time Slices
Show Merged Network

运行结果！


CiteSpace: Display Merged - (c) 2003-2015 Chaomei Chen - Project Home: C:\Users\Jerry Lee\.citespace\Chen CM\project
File Metrics View Layout Display Network Overlays Filters Clusters Export Help
Spotlight
Citation/Frequency Burst
Link Walkthrough
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
CiteSpace, v. 4.0.R2 (32-bit)
October 16, 2015 11:30:20 PM CST
C:\Users\Jerry Lee\.citespace\Chen CM\data
Timespan: 2001-2014 (Slice Length=1)
Selection Criteria: Top 50 by usage in past 180 days
Network: N=548, E=6840 (Density=0.0456)
Pruning: None
CHEN CM (2006)
Search
Clusters
Quick Guide
Labels
Views
Burstness
Term Labeling
By Centrality
Show Frequency
Threshold 30
Font Size 5
Node Size 35
Article Labeling
By Citation
Show Frequency
Threshold 21
Font Size 5
Node Size 2
Link Labeling
Show Link Labels
Show Link Strengths
Font Size 0
Cluster Labeling [Silhouette>0.05]
0
12
Layout


2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
CiteSpace, v. 4.0.R2 (32-bit)
October 16, 2015 11:30:20 PM CST
C:\Users\Jerry Lee\.citespace\Chen CM\data
Timespan: 2001-2014 (Slice Length=1)
Selection Criteria: Top 50 by usage in past 180 days
Network: N=548, E=6840 (Density=0.0456)
Pruning: None
CHEN CM (2006)

By Citation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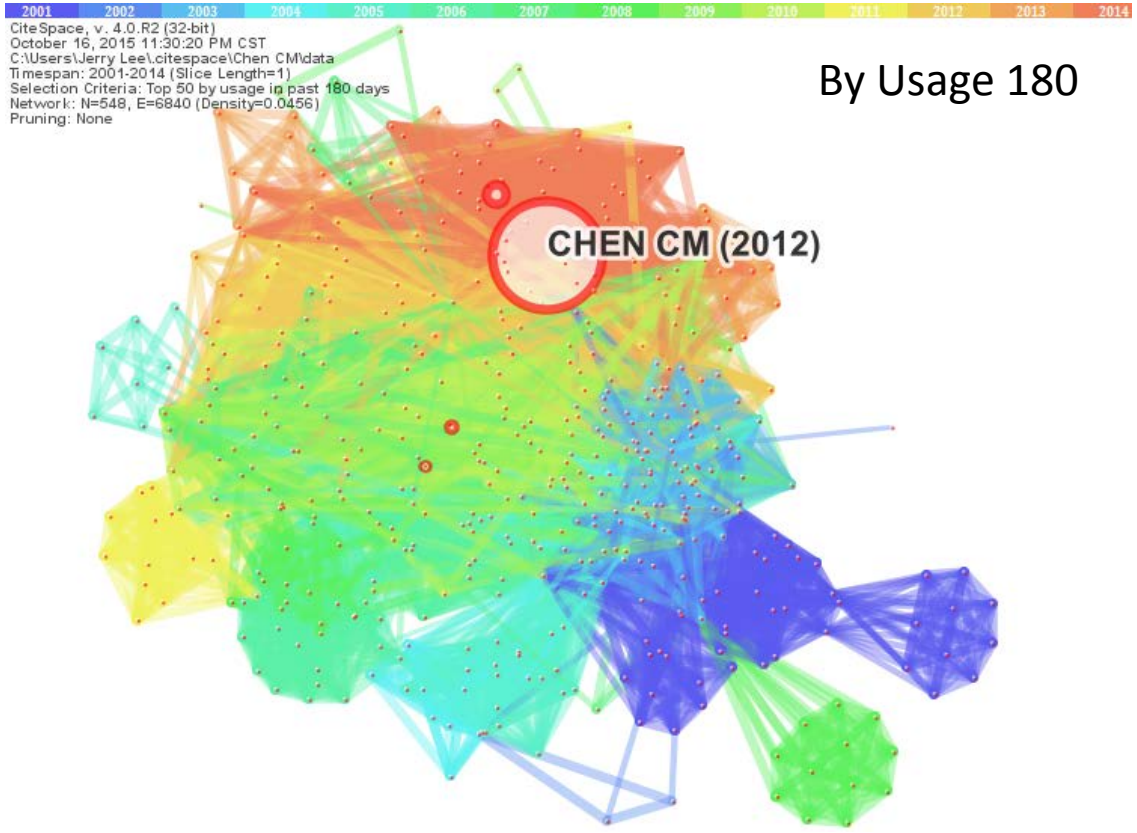
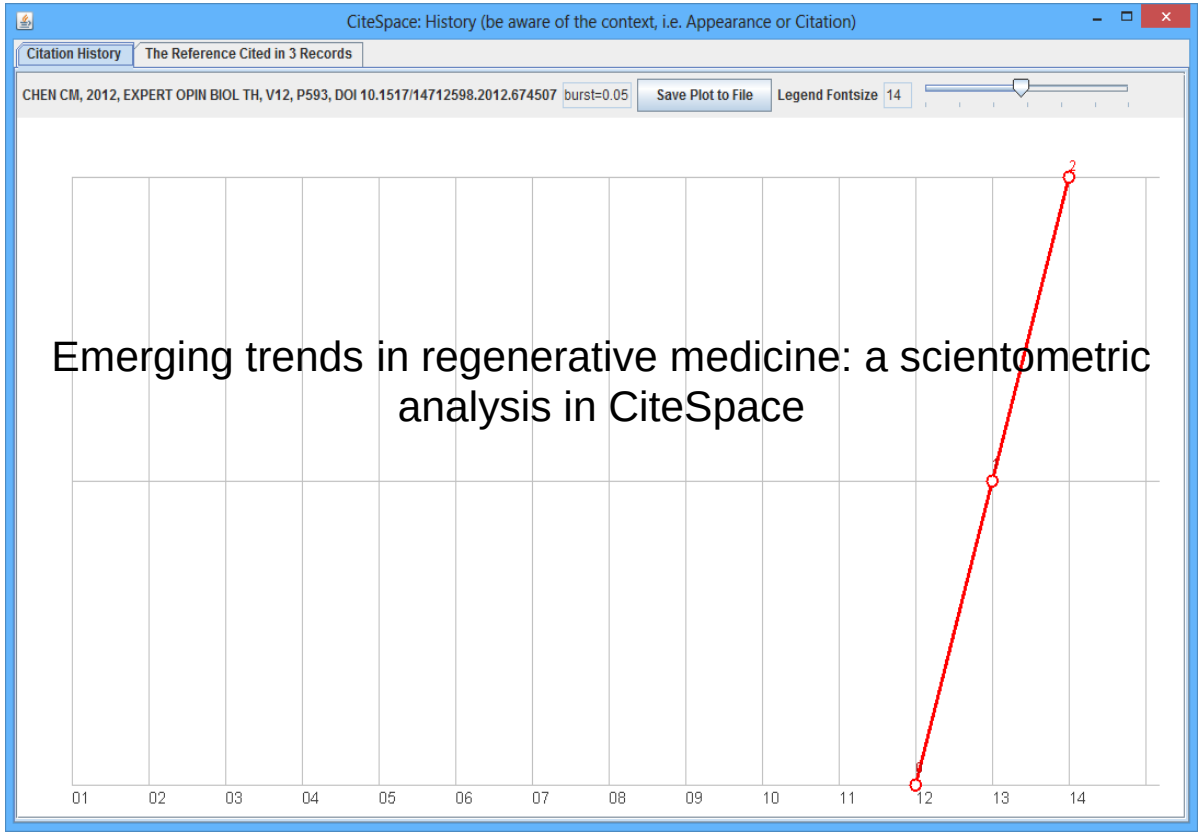
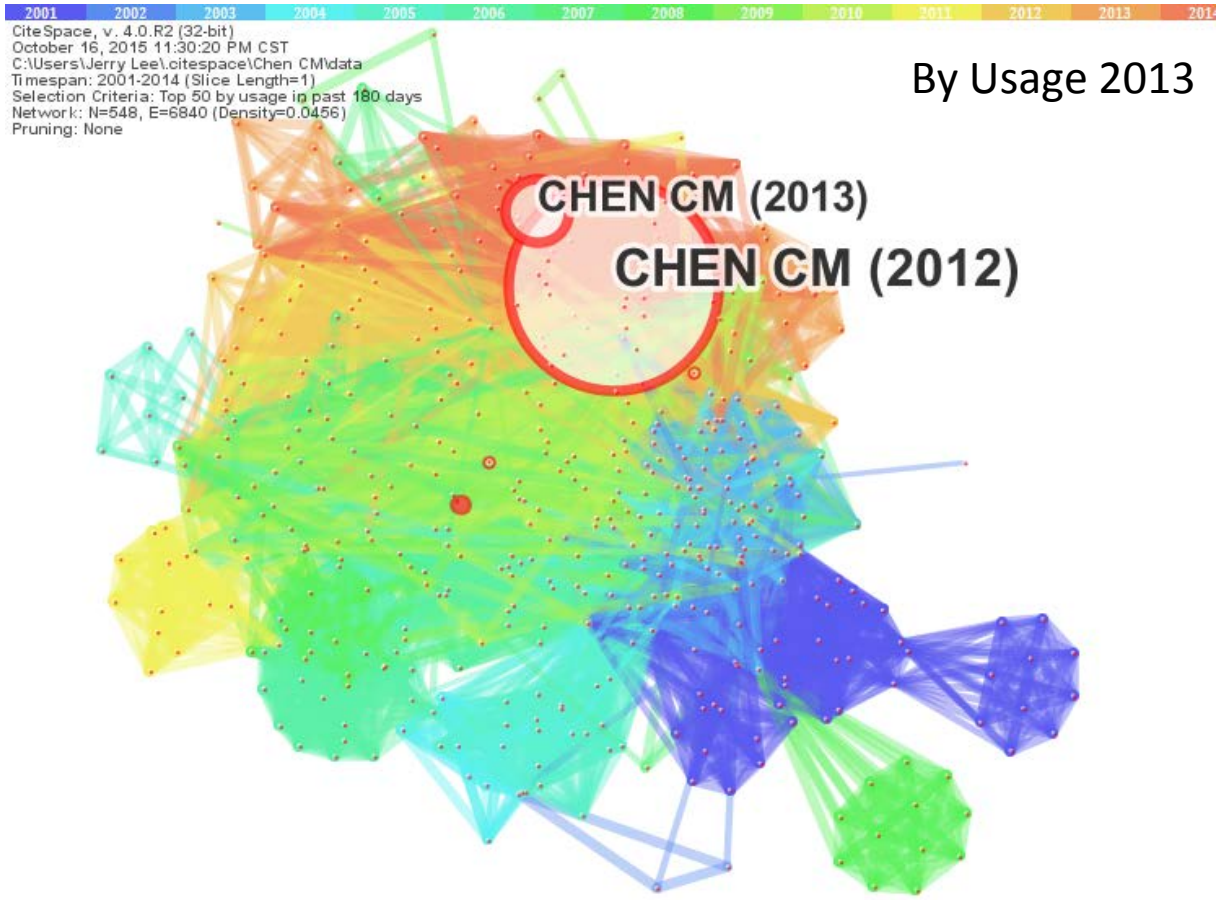
Citation History
The Reference Cited in 26 Records
CHEN CM, 2006, J AM SOC INF SCI TEC, V57, P359, DOI 10.1002/ASI.20317
burst=0.05
Save Plot to File
Legend Fontsize
14
CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature
01 02 03 04 05 06 07 08 09 10 11 12 13 14



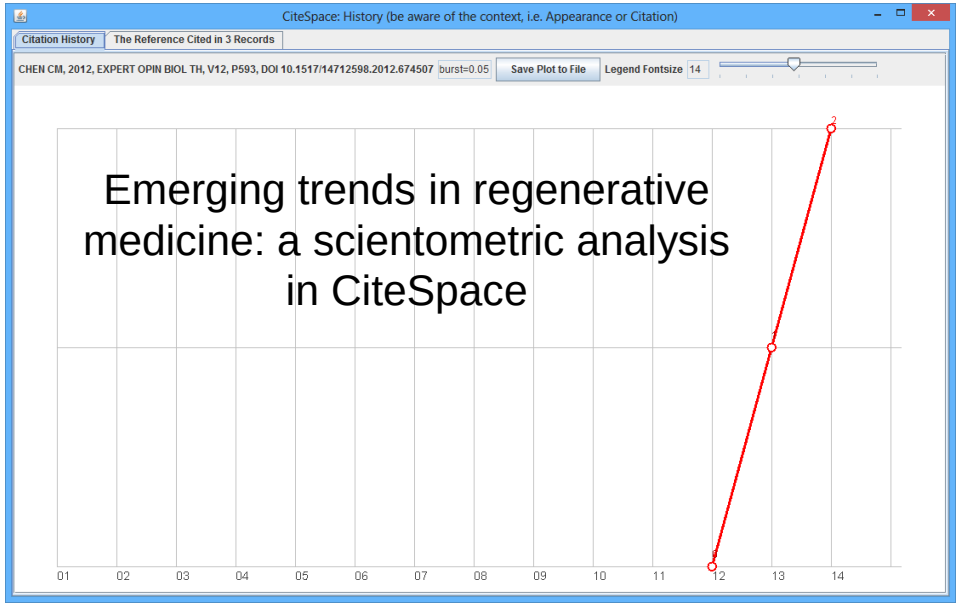
By Usage 180

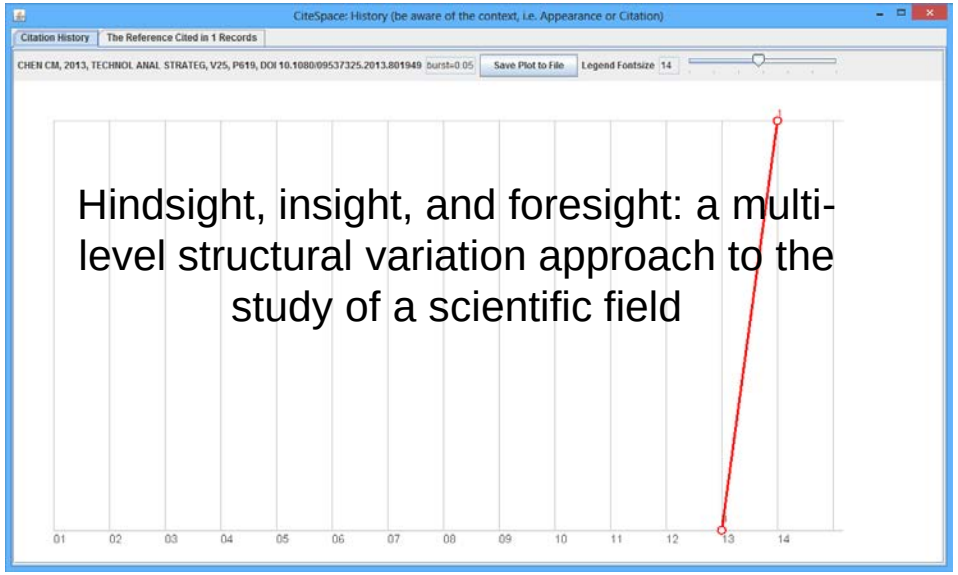


Emerging trends in regenerative medicine: a scientometric analysis in CiteSpace

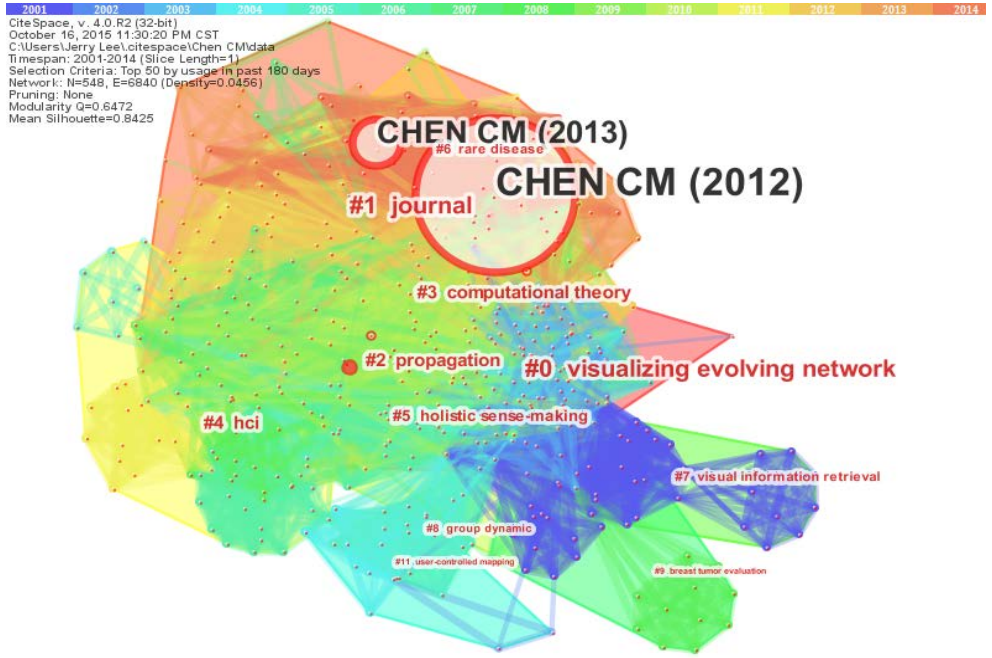


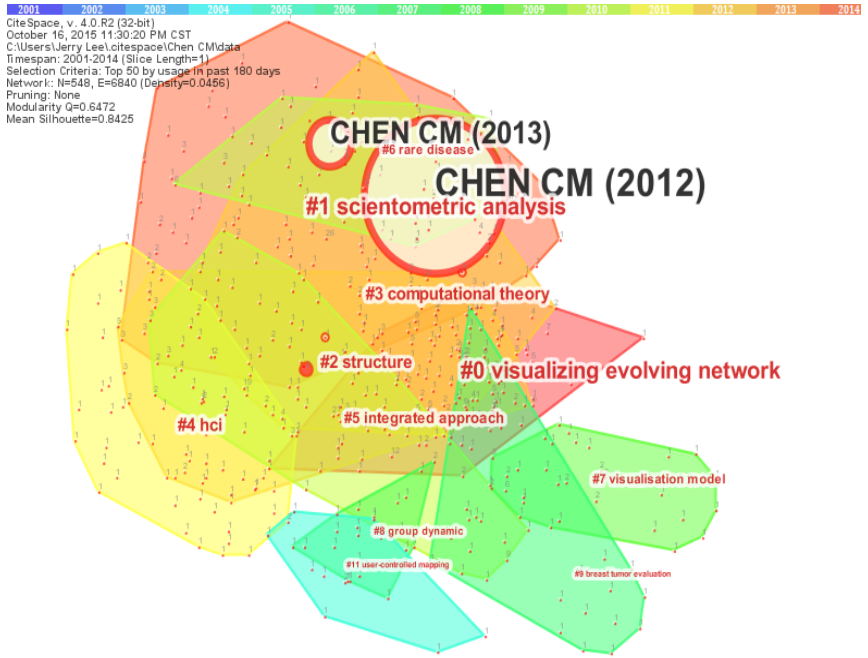
By Usage 2013

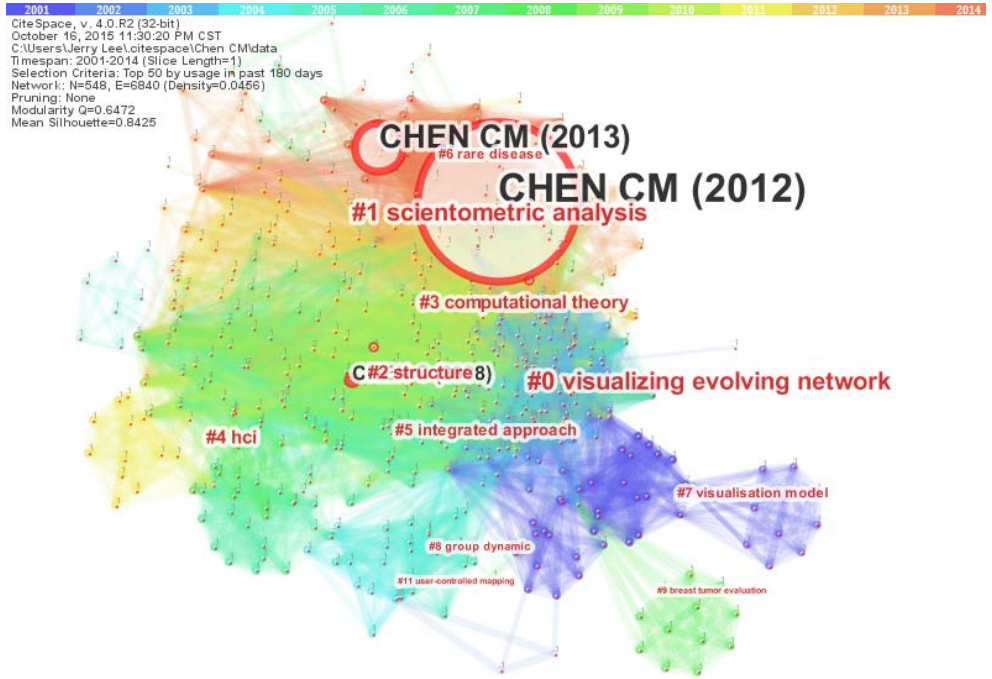


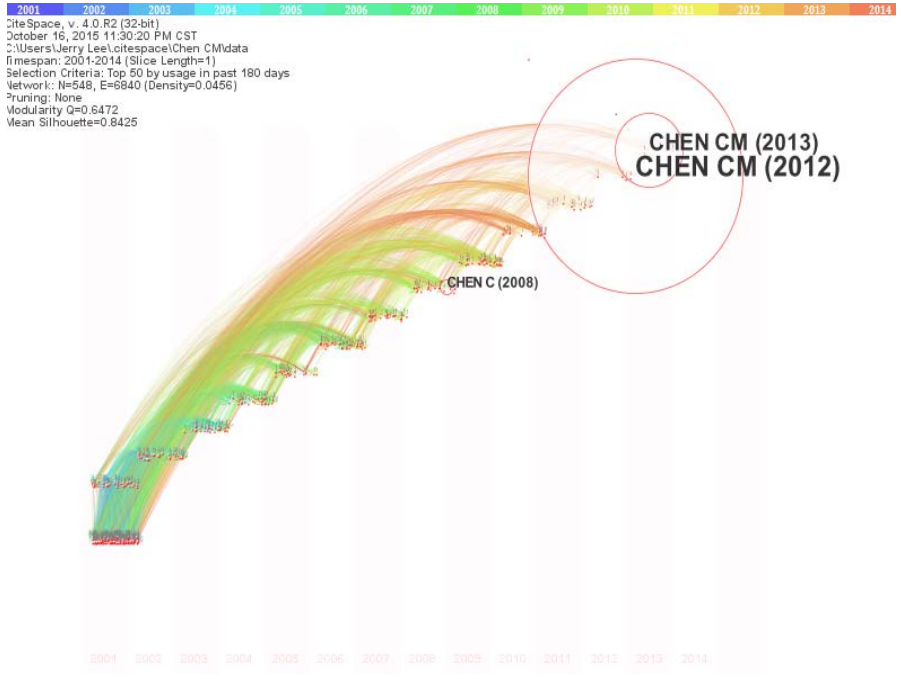


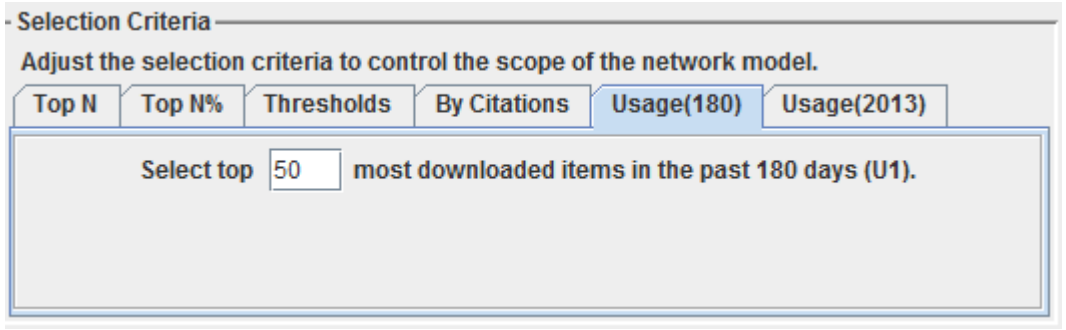
网络的聚类分析及其他展示！



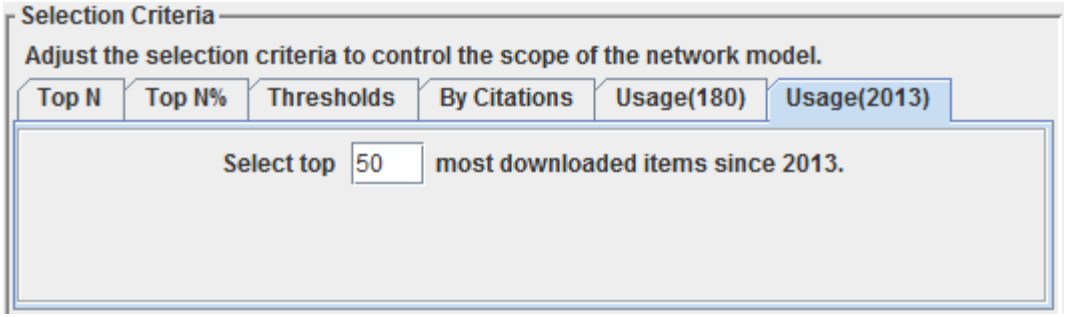




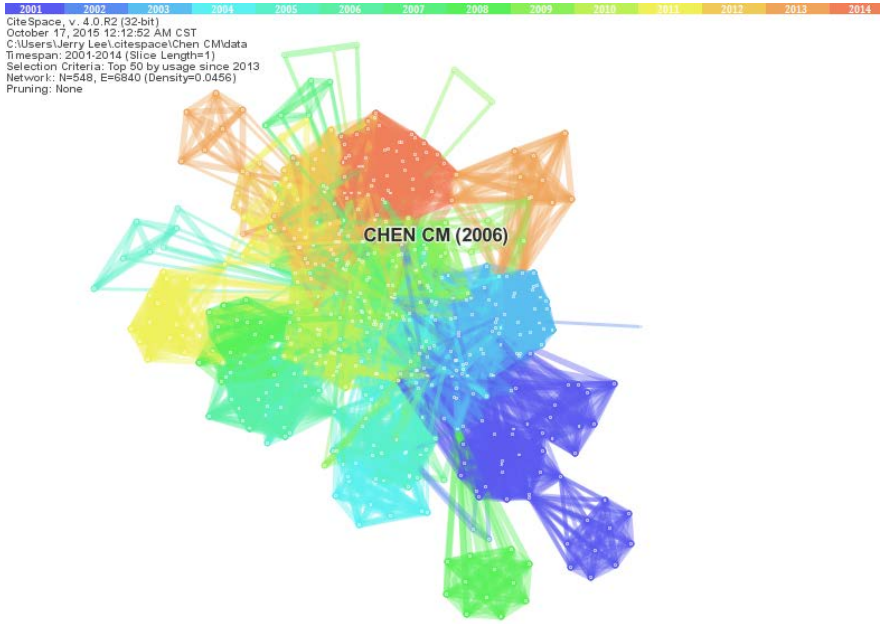


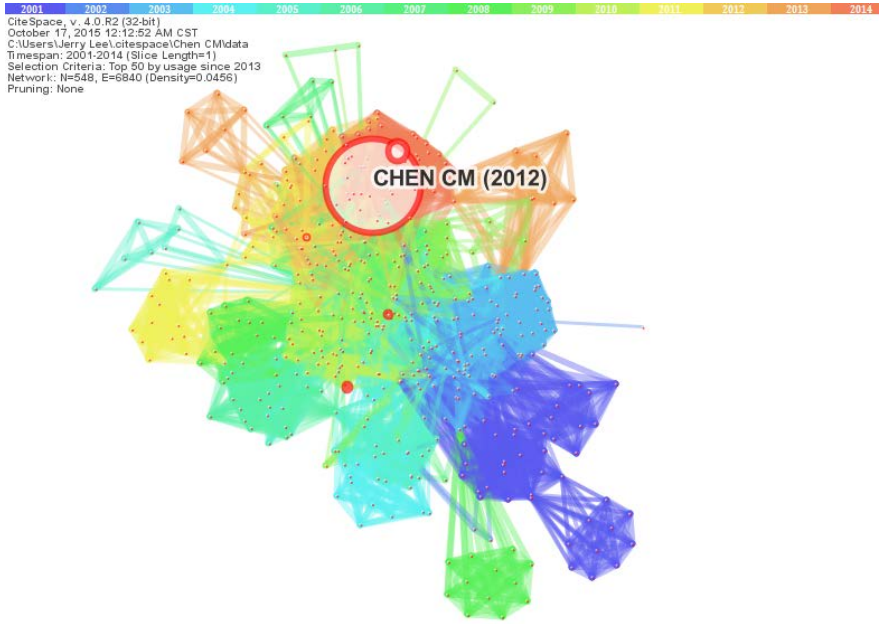


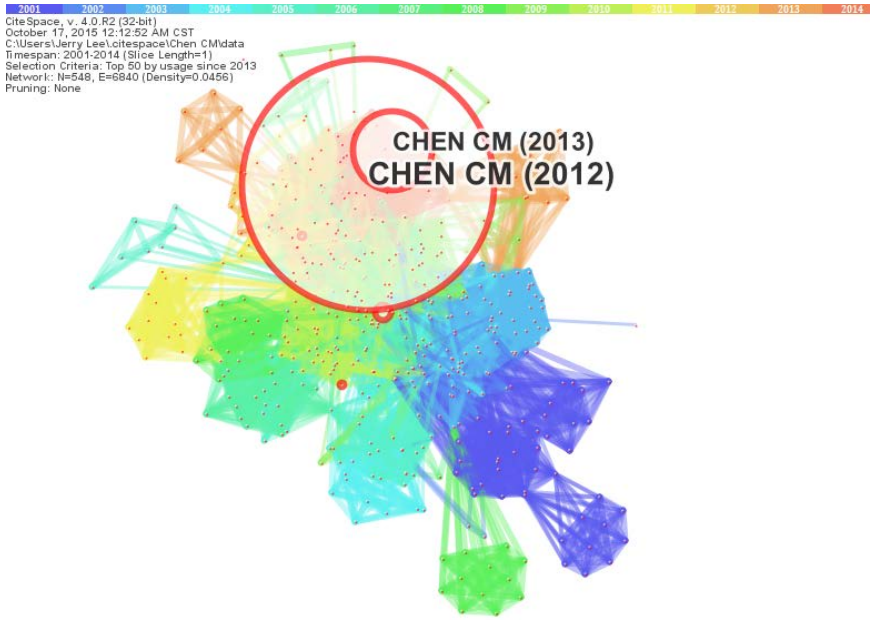
上面是基于Usage180来筛选数据，也可以通过Usage2013来筛选。
下面给出通过Usage2013筛选数据，得到的结果见下页。

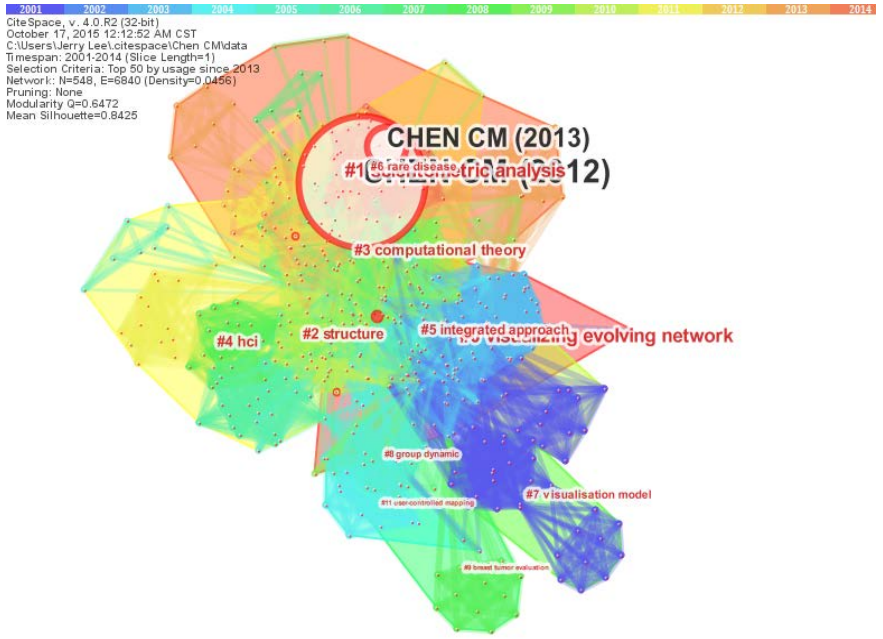


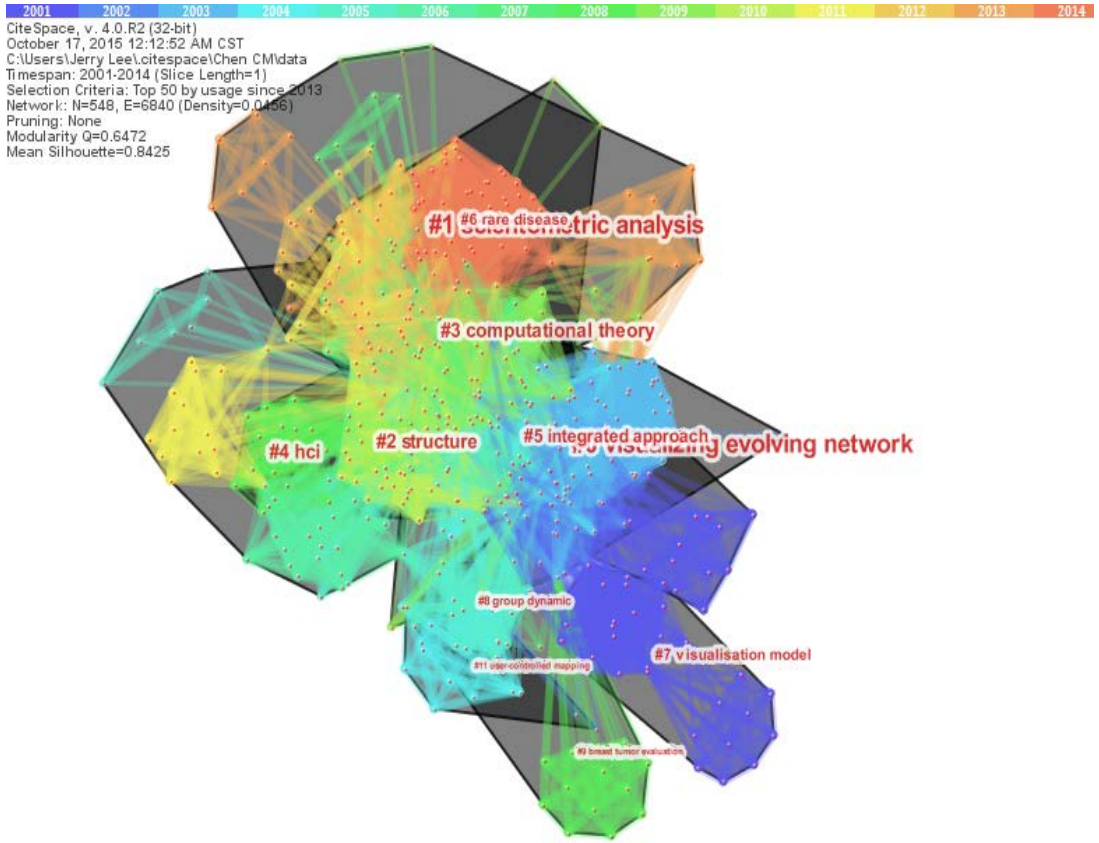
通过Usage2013筛选数据，得到的结果

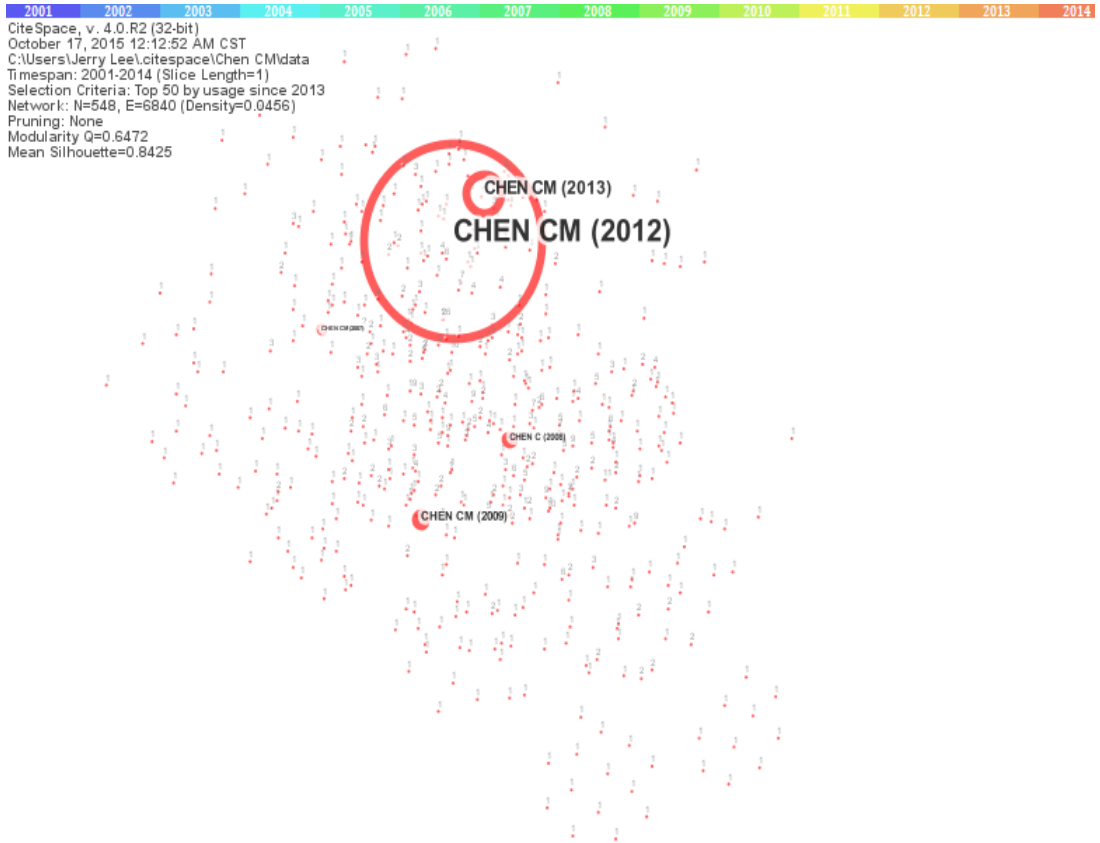









2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
CiteSpace, v. 4.0.R2 (32-bit)
October 17, 2015 12:12:52 AM CST
C:\Users\Jerry Lee\.citespace\Chen CM\data
Timespan: 2001-2014 (Slice Length=1)
Selection Criteria: Top 50 by usage since 2013
Network: N=548, E=6840 (Density=0.0456)
Pruning: None
Modularity Q=0.6472
Mean Silhouette=0.8425
#1
#6 rare disease
#3 computational theory
#4 hci
#2 structure
#5 integrated approach
evolving network
#8 group dynamic
#7 visualisation model
#11 user-controlled mapping
#9 breast tumor evaluation


2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
CiteSpace, v. 4.0.R2 (32-bit)
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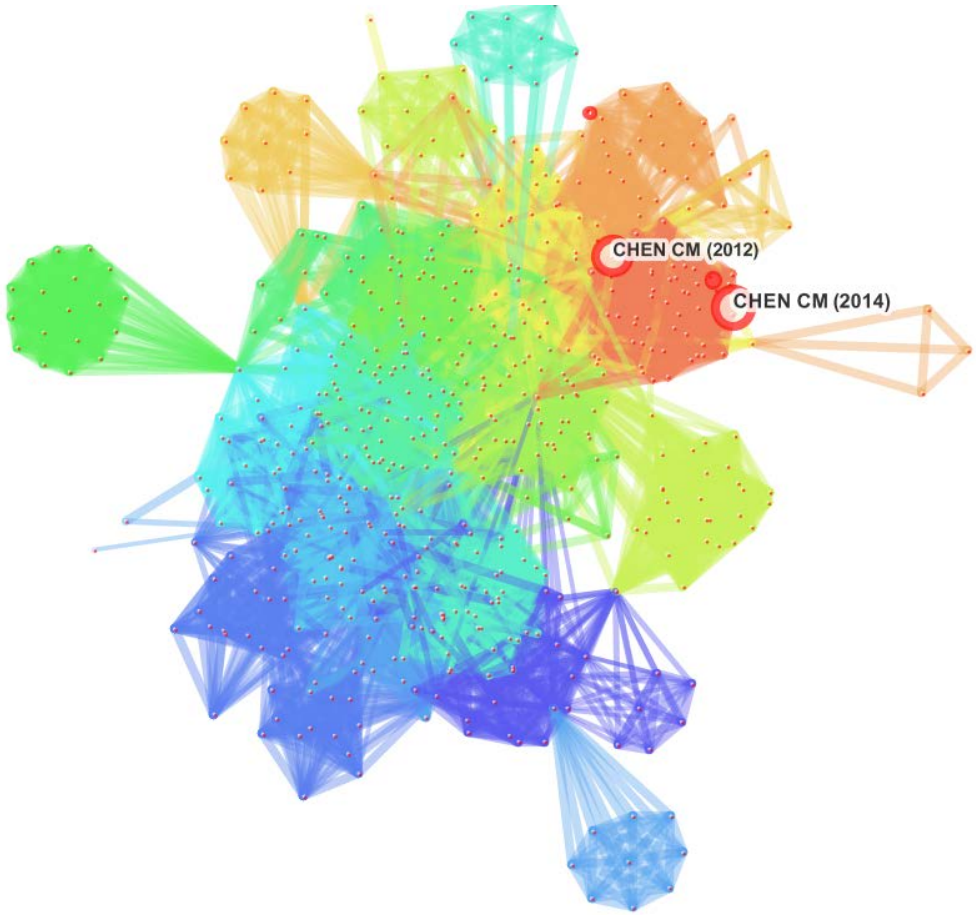
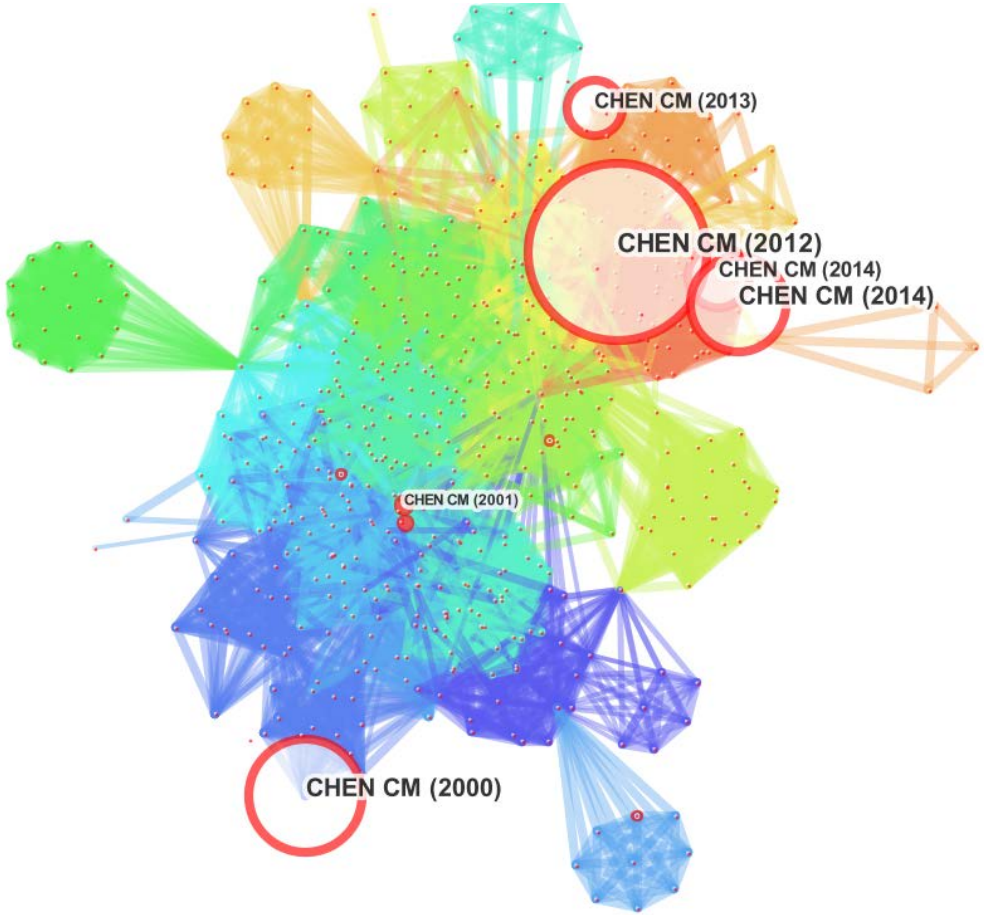
Pruning: None
Modularity Q=0.6472
Mean Silhouette=0.8425
CHEN CM (2013)
CHEN CM (2012)
CHEN C (2008)
CHEN CM (2009)

其他案例

TOP 50 by usage in past 180 days



TOP 50 by usage since 2013



下一版本的更新展望

U1和U2字段为我们了解节点的时间信息提供了便利。当前版本仅仅支持文献共被引网络的分析，今后或可在文献耦合、关键词共现等网络中尝试。

参考文献

- 该功能参考资料

1. CiteSpace 4.0.R2 增加Web of Science新添的下载数据 http://blog.sciencenet.cn/blog-496649-928288.html
2. CiteSpace101界面 https://sites.google.com/site/citespace101/first-example/4-0/4-0-web-of-science

更多Citespace学习资料：

1. 陈超美. CiteSpaceManual（英文） http://cluster.ischool.drexel.edu/~cchen/citespace/CiteSpaceManual.pdf
2. 陈悦，陈超美等. 引文空间分析原理与应用[M].科学出版社. 2014.
3. 陈超美著，陈悦等译. 科学前沿图谱 知识可视化探索[M].科学出版社. 2014.
4. 李杰. 如何使用CiteSpace的一组示范及常见问题解答http://blog.sciencenet.cn/blog-496649-838067.html
5. 李杰. CiteSpace中文指南. http://blog.sciencenet.cn/blog-496649-886962.html
6. 李杰，陈超美. CiteSpace科技文本挖掘及可视化[M]. 首都经济贸易大学出版社.2016.