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# New Ranking Methods in Invenio

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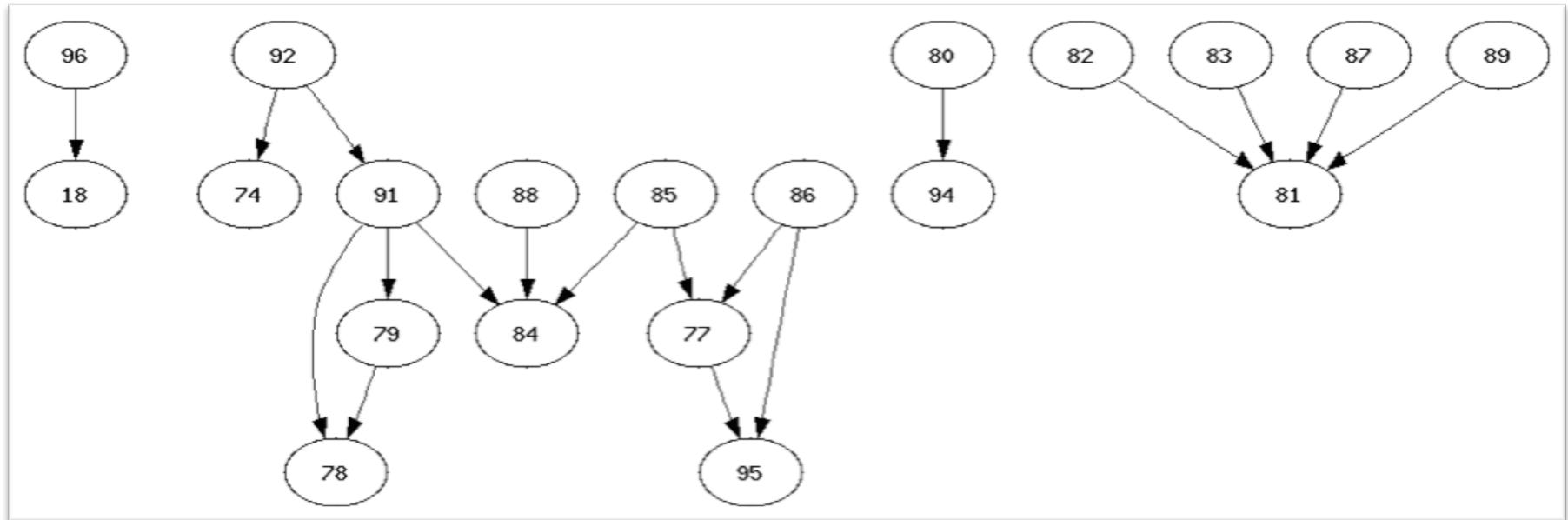
# Guideline

- Citation graph based ranking (based on the PageRank model)  
**[Invenio 1.0]**
- Distributed-Ranking **[under development – Invenio 1.3..]**
  - RELEVANCE
    - Word similarity
  - QUALITY
    - Citation counts
    - Download counts
    - User feedback [Views/Seens/Displays]
    - ... *Any type of counts*
- Ranking Admin Interface

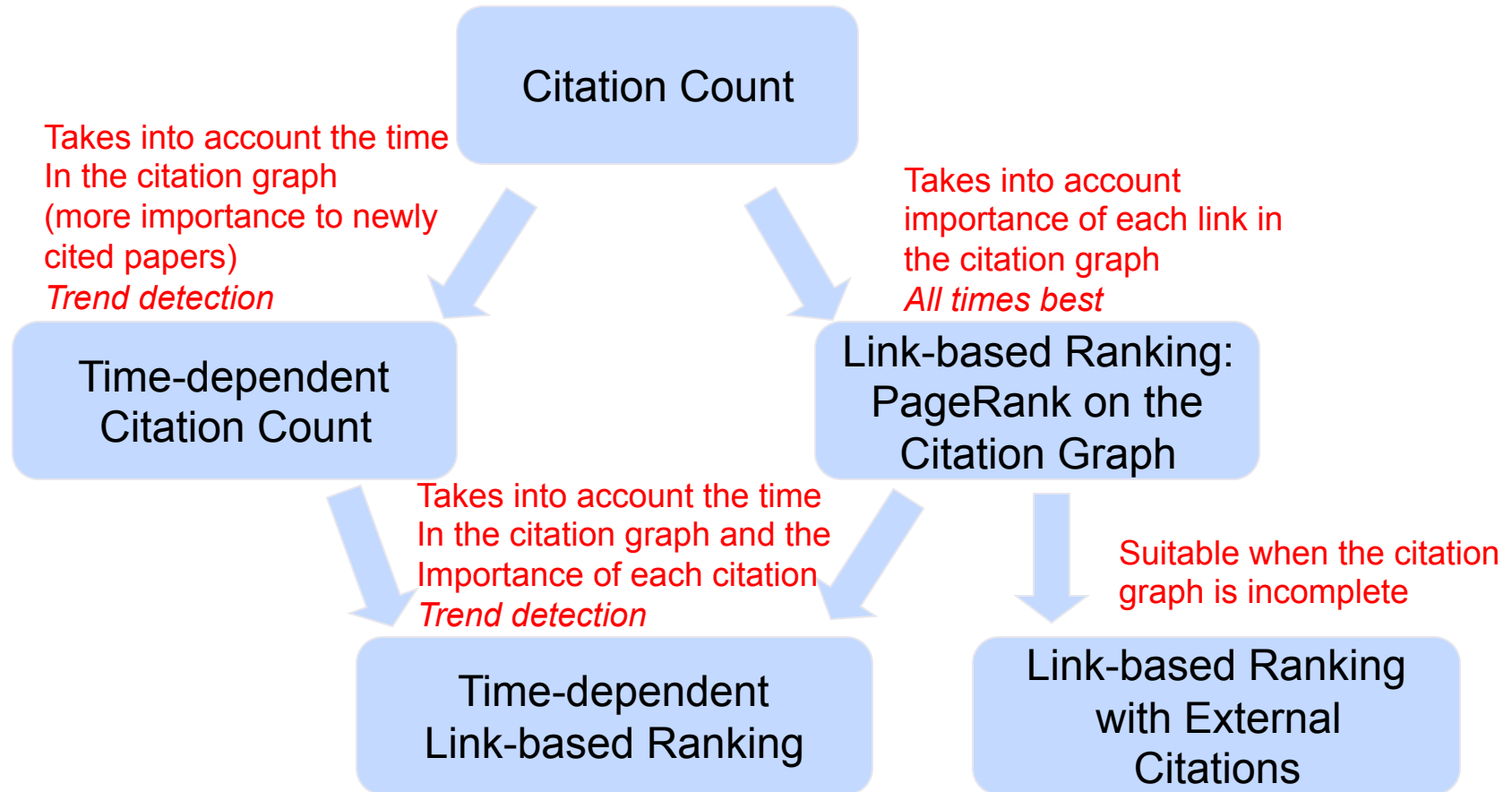
# Citation-graph based ranking

- Citation Counts
- Time-dependent Citation Counts
- Link-based Ranking
- Time-dependent Link-based Ranking
- Link-based Ranking with External Citations

# Citation Graph



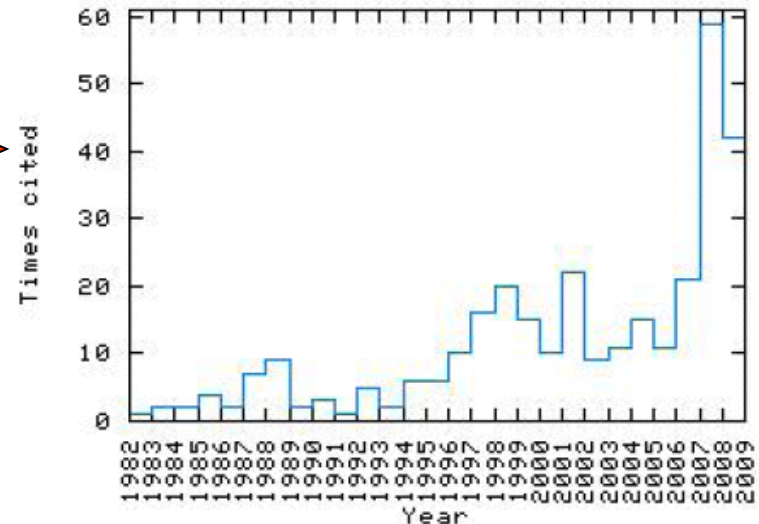
# Citation-graph based ranking methods



# Time-dependent Link-based Ranking

□ Time decay = 5 years

Citation Count	Publication	New Rank	Rank by Citation Count
314	On the Phase Structure of Vector-Like Gaugeless Fermions: Banks, Tom (1981)		
2480	Review of Particle Physics: Yao, W.-M. (2006)		
691	New Tests for Quark and Lepton Substructure		
130	Another odd thing about unparticle physics (2007)		
108	Collider signals of unparticle physics: Cheung		
149	Unparticle physics: Georgi, Howard (2007)		
2652	Wilkinson Microwave Anisotropy Probe (WMAP) results: implications for cosmology: Spergel, I		
94	Some phenomenologies of unparticle physics (2007)		
5162	The Large N limit of superconformal field theories and supergravity: Maldacena, Juan Martin (1997)	9	3
82	Unparticle physics on direct CP violation: Chen, Chuan-Hung (2007)	10	18889

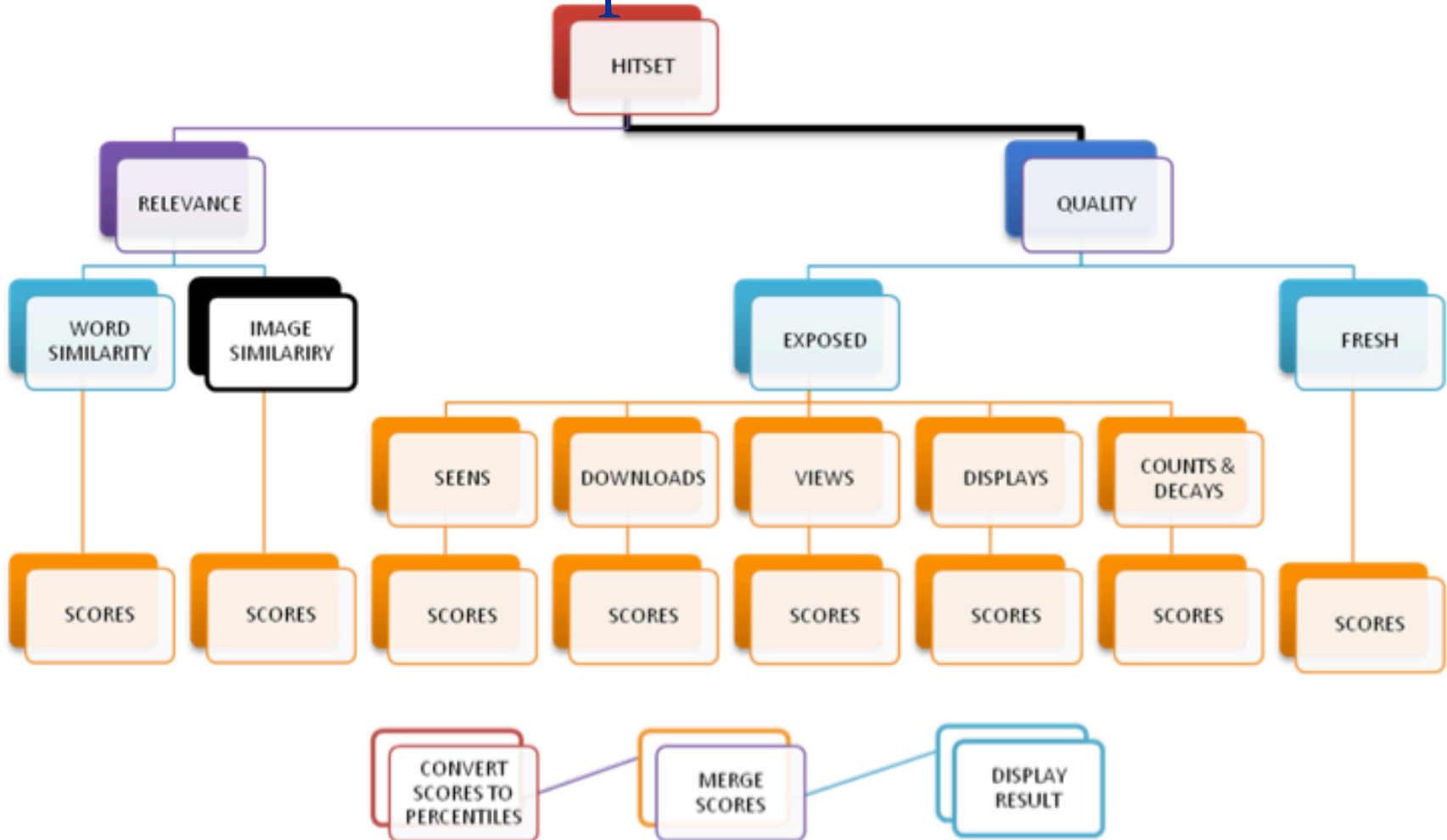


# D-Rank (Distributed Ranking)

*under development*

- *One method to rule them all*
- One method that can aggregate *all* the existing ranking methods in Invenio + *user feedback*
- Readjustment of parameters based on user feedback
- Ranking as a function of Relevance and Quality:  $f = R^p Q^{1-p}$ ,  $0 \leq p \leq 1$

# D-Rank - concept





# User feedback

Search:

[Search Tips](#) :: [Advanced Search](#)

- Articles & Preprints 7,944 records found 1 - 10 ▶▶ jump to record: [1]
- 1. **Next-to-leading order matrix elements and truncated showers** / [Hoeche, Stefan](#) ; [Krauss, Frank](#) ; [Schonherr, Marek](#) ; [Siege, Frank](#)  
An algorithm is presented that combines the ME+PS approach to merge sequences of tree-level matrix elements into inclusive event samples with the POWHEG method, which combines exact next-to-leading order matrix elements with parton showers. [...]  
arXiv:1009.1477. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 2. **Topological origin of vector boson masses in Electroweak Model** / [Gromov, Nikolay A](#)  
Starting from the fact that the quadratic form  $\phi^\dagger\phi = R^2$  of the matter field space  $C_2$  of the Electroweak Model is invariant with respect to gauge transform we have suggested to regard fields on the compact 3-dimensional sphere  $S_3$ , which is defined by this quadratic form, instead of noncompact space  $C_2$  or . real components are counted. [...]  
arXiv:1009.1456. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 3. **The Higgs scalar field with no Higgs particle** / [Nesbet, R K](#)  
Postulating that all massless elementary fields have conformal scaling symmetry removes a conflict between gravitational theory and the standard model elementary quantum fields. [...]  
arXiv:1009.1372. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 4. **Addendum to: Predictions for Higgs production at the Tevatron and the associated uncertainties** / [Baglio, Julien](#) ; [Diou, Abdelhak](#)  
In a recent paper, we updated the theoretical predictions for the production cross sections of the Standard Model Higgs boson at the Tevatron and estimate the various uncertainties affecting these predictions. [...]  
arXiv:1009.1363. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 5. **Cosmological Constraints on Higgs Boson Mass** / [Papa, L A](#) ; [Caramete, A](#)  
For a robust interpretation of upcoming observations from PLANCK and LHC experiments it is imperative to understand how the inflationary dynamics of a non-minimally coupled Higgs scalar field with gravity may affect the determination of the inflationary observables. [...]  
arXiv:1009.1293. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 6. **Next-to-leading order matrix elements and truncated showers** / [Hoeche, Stefan](#) ; [Krauss, Frank](#) ; [Schonherr, Marek](#) ; [Sieger, Frank](#)  
In this publication, an algorithm is presented that combines the ME+PS approach to merge sequences of tree-level matrix elements into inclusive event samples with the POWHEG method, which combines exact next-to-leading order matrix element results with the parton shower. [...]  
arXiv:1009.1127 ; ZU-TH 13-10 ; IPPP-10-73 ; DCPT-10-146 ; CERN-PH-TH-2010-195 ; MCNET-10-17. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 7. **Four Generations, Higgs Physics, and the MSSM** / [Dawson, S](#) ; [Jaiswal, P](#)  
We consider the effects of a fourth generation of chiral fermions within the MSSM. [...]  
arXiv:1009.1099. - 2010.  
[Preprint](#)  
[Detailed record](#) - [Similar records](#)
  - 8. **Higgs searches at the Tevatron** / [Mastrandrea, Paolo](#)  
The search for the Standard Model Higgs boson in proton-antiproton collisions at 1.96 TeV performed by CDF and D0 collaborations at the Tevatron collider is reported in this paper. [...]  
arXiv:1009.1046 ; 20100906 - 2010

## ■ For each record :

- # views
- # downloads
- # seen
- # displays

# Usage of D-Rank

- ‘Magic’ ranking method (readjustment of parameters based on user feedback – user clicks)
- User customizable ranking method:

*Define your own ranking method:*

#Citations



#Downloads



#Views



# Admin Interface

- BibRank Admin
  - Add new method
  - Modify an existing method (by modifying it's parameters in the configuration file)
  - Delete an existing method
  - Enable/Disable a method per collection
  - Modify the name translations