Using pairwise comparisons for better decision making related to the radiation pollution cause by electromagnetic field

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Short description of the lecture:

Thurnstone used pairwise comparisons to deliver the first formal introduction of pairwise comparisons in the form of ``the law of comparative judgement''. A variation of this law is known as the BTL (Bradley-Terry-Luce) model. Comparison, rating, and ranking of alternative solutions, in case of multi-criteria evaluations, have been an eternal focus of operations research and optimization theory. There exist numerous approaches at practical solving the multi-criteria rankingproblem. Inconsistency in the sense of logic has been known for a long time. Inconsistency of this kind refers to a set of logical formulae which have no common model." and "The need for knowledge inconsistency resolution arises in many practical applications of computer systems. This kind of inconsistency results from the use of various sources of knowledge in realizing practical tasks. These sources often are autonomous and they use different mechanisms for processing knowledge about the same real world. This can lead to inconsistency." Unfortunately, inconsistency is often taken for a synonym of inaccuracy but it is a "higher level" concept. Inconsistency indicates that inaccuracy of some sort is present in the system. Certainly, inaccuracy by itself would not take place if we were aware of it. One of the important problems is to determine the significance of criteria $c_1; . . .; c_n$. Relating c_i to c_j is both subjective and difficult due to the intangible and abstract nature of the criterion itself.

Contents:

1. Historical perspective on measures

2. Pairwise comparisons – motivation

3. Inconsistency analysis

4. Pairwise comparisons simplified

5. Consistency-driven pairwise comparisons (CDPC) contribution to improving measures of subjective knowledge

6. An LP-based inconsistency monitoring of pairwise comparison matrices

7. On distance-based inconsistency reduction algorithms for pairwise comparisons

8.   A Different Perspective on a Scale for Pairwise Comparisons

9.   Methods for deriving priorities from PC matrices

10.   Notable applications

Terminy wykładów			
Data	**Dzień tyg.**	**Godzina**	**Sala**
2015-06-15	Pn	12.15-15.00	GG300
2015-06-16	Wt	12.15-15.00	GG300
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