The FSTP Test –
Its Mathematical Assesment of an
ET CI's Practical and SPL Quality

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Mathematics for CIs?

◆Why may mathematics be important for developing a precise and robust Claim Interpretation and Claim Construction being in accordance with SPL for a CI?

◆The answer may be seen from the next slide representing areas from applied mathematics where mathematics is used as a familiar tool for solving problems and taking decisions. As refers to the above, so far nobody tried to apply mathematics to these subjects.

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Mathematics for CIs?

◆Mathematical models provide more abstract descriptions solutions for practical problems like

◆the motion of a fluid,

◆ the stability of a construction,

◆ the risk management of financial transactions,

◆the dynamics of a population,

◆gambling strategies,

◆the prediction of monster waves etc.

◆by mathematical objects and procedures like sets, maps, structures, numbers, equations, optimization techniques, probabilities etc.

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Mathematical Modeling

◆In general there are basic requirements as follows:

◆The description should take into account all aspects and properties of the practical problem, which are necessary to develop mathematical procedures leading to reliable predictions and convincing solutions.

◆In our case the modeling will not involve the many intimidating procedures from high school mathematics. It relies on elementary notions like sets, maps, relations, transformations, elementary logics or counting only.

◆ The basic entities for describing claimed inventions should be **inventive concepts** (US Supreme Court's Mayo decision).

◆ Mathematically spoken the creative parts of inventive concepts are given by a domain and a binary map separating the domain into a truth set and a false set.

◆ The Substantive Patent Law given by Sections 101, 102, 103 and 112 of the national US patent law 35 USC and a series of precedents as mentioned in the preceding presentation.

◆ Testing a claimed invention under this SPL means testing it under the 10 FSTP tests.

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◆ The development of the inventive concepts is based on a series of mathematical procedures dealing with creative concepts and leading to the creative parts of inventive concepts:

◆ fact screening of the claims in terms of creative concepts on different levels of precision,

◆ transformations between these concept sets, helping to derive the concepts of higher precision and keeping control on the relations between the concepts on different levels (the Knowledge Representation Transformation),

◆ selecting complete sets of independent concepts from the final set of elementary (disaggregated) concepts,

◆ determining complete sets of independent innovative concepts from the set of independent concepts by comparison with prior art and pertinent skill.

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◆The FSTP-Test consists of a combination of 10 single tests. They are related to the 10 concerns quantifying the given SPL.

◆Some of the tests are reflected mathematically by the data structure developed for the formal description of inventive concepts.

◆Another part of the tests can be checked automatically by a formalized test (mathematical / logical) applied to the inventive concepts.

◆Some tests have to involve the opinion of an expert. The reliable basis for his will be inventive concepts.

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FSTP-Test (2)

◆The mathematical background for the first tests given by the data structure of an inventive concept consisting of a creative concept, which is enhanced by disclosures and justifications referencing parts of the claims of the application and the relevant parts of the SPL

◆The key terms for these tests are

◆disaggregation into elementary concepts,

◆lawful disclosures,

◆definitiveness and

◆enablement

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◆ For the following tests further mathematical modeling is necessary:

◆ <u>*KSR*-test :</u>   S is well-defined over posc;

◆ <u>TT0's implementation by S is enablingly/lawfully disclosed</u>;

◆ <u>*Bilski*-test :</u>   TT0 is non-preemptive;

◆ <u>*Alice*-test :</u>   TT0 is patent-eligible;

◆ <u>*Biosig*-test :</u>   TT0 is definite;

◆ <u>RS-Definiteness-test :</u>   RS is well-defined over TT0;

◆ <u>*Graham*-test :</u>   TT0 is patentable.

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◆A scheme for the comparison of S with prior art and pertinent skill is established.

◆The scope of a CI has been defined in terms of sequences of domain elements of inventive concepts.

◆This is used for deciding on the non-preemptiveness of a CI.

◆A formal description of an abstract idea is given.

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The End

Thank you for your attention

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