

**The Coupling-Transplantation Effect (CTE) and Differential Analytical-Physics-Topology Principle (DAPTP) in Ionospheric-Atmospheric-Oceanographic-Climatic-Seismic Processes Complex (IAOCSPC) with Observations in Specific Istanbul Domain Topology (SIDT)**

Taner Sengor

Dept. of Electronics and Communication Eng., Yildiz Technical University (Emeritus Professor), Istanbul, Turkey

The Earth is an entity with the entirety of all things what there are in its interior, on its surface, over its surface, in its atmosphere, and in its exterior in point of the way of coming into being for natural events occurring in geophysical domain. The entirety of the Earth constitutes a unique system in point of all the natural events because of this entirety; therefore, any natural event in any region of the Earth has a reason to produce an effect on the geophysically natural events in other regions of the Earth even if they are not correlated to each other in a specific science discipline yet. The reason of this relatively interrelation structure comes from the fact that any region of any natural event and/or disaster is not a part of an entirely closed system. The entire Earth is a single entity providing a topological domain structure, say TDS briefly, to things occurring in geophysical topics. The boundary surfaces of the specific domains carry out these reciprocal influences among distinct domains through the conditional equations provided with the initial values and boundary values. The boundary equations distribute these influences with the aid of equivalence principles among each others as mutual coupling effects.

The unnatural and/or inconvenient constructions in both inwards and outwards of this topological domain structure are effective to alter both the initial values and boundary values beside changing the geometry of boundary surfaces; therefore, the natural events and hazards involving disasters build themselves up as coupling the effects of each other mutually. This observable fact brings the hypothesis below on the natural events independent from the topic:

***Hypothesis 1 (The event independent self-control mechanism entirety):*** The geophysically natural all events in a topological domain structure make mutual progress and come to truth as a result of an event independent self-control mechanism in the entirety of the Earth.

We call the event independent self-control mechanism entirety both the principle building this observable fact and the hypothesis. This self-control mechanism works for the entire entity of the universe with the entirety of all things what the universe involves in the same way [1]. The changes, at boundary surfaces, boundary values, and initial values done through the unnatural and/or inconvenient ways by human communities [2] cursorily, eliminate the way to build stable, consistent, and continual prediction of earthquake processes [3]-[4].

If A and B are physical events at  $t=t_1$  and  $t=t_2$ , respectively, in the same differential topological domain where  $t_1 < t_2$  then A and B may attract each other through bidirectional communication-like information even if A and B are not in the same physical category. This fact comes from the similarity effect of physical events those obey always to a 2nd order partial differential equation, PDE at specific boundary conditions, SBC. The coefficients in the operator part and the source function part of the PDE and propagation factors of the eigenfunctions in the solution and SBCs differ from an event category to other event category; however stochastic interpretations of these coefficients, source functions, eigenfunctions, and SBCs bring a unique and compact boundary value problem, BVP. We call network BVP this type of extended BVPs. The common parts of different types of events A and B in the same BVP scheme are topology and boundary surfaces of the same domain. The relationship between event A and event B is based on inversely transferring of boundary values, source functions, and coefficients between each other of the events through topological transformations, TTs. These TTs establish the bidirectional information communication between both climatic and seismic processes. All the natural events and hazards involving disasters are the self-control mechanism of the Completely Compact Earth Network, CCEN. The sea is a way and transfer medium for waves by Pascal's rule.

The electromagnetic parameters of the ingredients of the Earth change with the climatic events like falling of rain, snow, etc.; i.e., the admittivities of lands, faults, rock masses, etc. increase with excessively falling of rain. If the end point surfaces of faults and/or tectonic plates are very close or touch to each others then electrical charge transfer between different sides of faults or tectonic plates increase and accelerated. This situation prevents the occurrences of Van der Waals like potentials, so Casimir-Polder like forces are decreased. There are two types of the result of this event.

Result 1: i) Let  $Z_1$  and  $Z_2$  be arbitrarily different two domains of seismicity. The transfer of electrons in the domain  $Z_1$  gets easy when the admittivity of domain  $Z_1$  increases with the excessive fall then the electrical charges may escape from the domain  $Z_1$  and accumulate in the domain  $Z_2$ , so Casimir-Polder like forces may effect in domain  $Z_2$  that goes to generate seismicity possibly creating significant earthquakes.

ii)) If the absence of fall in domain  $Z_2$  occurs for a suitably long time; i.e., the fall does not exist in domain  $Z_2$  for a long period then the similar seismic activity may occur.

The result 1 explain a fact that there are some inversely correlated effect among domain  $Z_1$ , domain  $Z_2$ , and falling of rain, snow, and etc. We call **push\pull effect** [5]-[6] the **inversely relation** among different types of anomalies. One type of anomaly pulls the anomaly in other type according

to the mechanism of push/pull effect but iff the other type anomaly occurs then the earlier type of anomaly is prevented or altered; i.e., the previous anomaly pulls the second but the second pushes the previous anomaly. The motivating point of an effective earthquake prediction is to fix the occurrence of the abovementioned interactions and to follow its traces instead of seeing the plots of shakes during quakes.

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The constrainers of Present Natural Hazards, PrNHs, are the Future Natural Hazards, FuNHs. The Past and/or Backward NHs (PaNHs, BwNHs) completed their results and could not effect to the PrNHs.

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The results obtained with the methods of classical geophysics built on the classical Newton's mechanics does not reflect the real processes, RPs for the magnitudes more than 5.9 Richter. The approaches built on Einstein's relativity can not generate RPs for the interwall of over 6.9 Richter; i.e., a temporal transportation occurs in the last domain: Kocaeli-Mediterranean Sea EQ in 1999 is a result of both backward majorant propagation effect, BMaPE of Hector Mine EQ occurred after itself and forward majorant propagation effect, FoMaPE of the seismicity to Future İstanbul Earthquake, sFIEQ. This means the raising period of FIEQ is released. The constrainer of 1999 Taiwan EQ is a result of BMAPE of Duzce EQ occurred after itself. The constrainers of 2019 Silivri, Albania, and Athens EQs are the FIEQ desired in demand for future but never come. 1999 Avcılar EQ is a result of backward minorized propagation effect, BMiPE of the sFIEQ. This means the waiting/relaxation period of FIEQ is suspended. These are figured from the specific records of these events observed during 1999-2004 and 2018-2020. The couplings among ionospheric, atmospheric, oceanographic, climatic, and/or seismic processes provide the communication among the events of different categories in here. We define this principle as the spati-o-temporal transplantation effect in EQ processes.

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The SIDT is the most safe region on the Earth for the majorant earthquakes and preserves this property iff the unnatural buildings and major excavations are excluded from this topology.

Specific **Istanbul Domain Topology** pulls, i.e., pseudo-calls, the atmospheric=climatic events and then pushes the significance down of its' **Probably Future Earthquake**, say PFE.

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## REFERENCES

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