

quantum hologram berry phase quantrek

## Quantum Hologram (QH)

Quantum holography, a real phenomena validated experimentally, explains many phenomena in nature where there was no mechanism to account for the transfer of information between objects. It offers strong evidence that suggests that it is the basis of consciousness and explains how living organisms know and utilize whatever information they know and utilize. It also elevates information to the same fundamental status as matter and energy and serves as nature's information store. It describes the whole of creation as a self-organizing inter-connected holistic system. QH also describes a mathematical formalism for how nature implements and utilizes memory, perception, attention and intention.

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We can observe the resonance of a violin string when a note is struck nearby corresponding to its natural frequency, or when a vocalist shatters a glass with a strong falsetto. But it's a bit more difficult to imagine every structure having a hologram and resonating with the underlying infinite unstructured energy of the zero point field. This quantum mechanical type of resonance is an exchange of energy with the zero-point field such that the "phase change" (interference pattern) of quantum emission carries complete information about the history of the system. This phenomenon is called the *Berry phase*, or *geometric phase*, of a quantum system and has been experimentally validated.

As described elsewhere in this web site, the quantum hologram was discovered and experimentally validated by Professor Walter Shempp in Germany while working on improvements to magnetic resonance imaging (MRI) technology. He discovered that the well known phenomenon of emission/reabsorption of energy by all physical objects at the quantum level carries information about the history of that physical object. The mathematical formalism used by Shempp is the same formalism used in holography, thus the name *quantum hologram* (QH). Similar to interference patterns in laser holography, the information is carried in the phase relationships of the emitted quanta. An additional important property of the QH is that it is non-local, meaning that it is not located in space/time, but carries the information instantaneously and everywhere.

The quantum hologram is the first energy phenomenon that directly links all macro-scale matter with the quantum world. For most of the last century, quantum nonlocality was considered a vexing artifact of particle interactions, but with no application to the macro scale world. Non-local information was not considered useable. Further it has brought science uncomfortably close to the forbidden realm of mysticism. The last 10 years however, witnessed a major new interest in the area of quantum computation and non local quantum effects, particularly in Europe, where significant advances have been made. It is now clear that in the proper circumstances that quantum information is both

available and usable. The real issues which must now be resolved in order to better map these fascinating discoveries pertain to 1) the structure of the zero point field that fills all space and supports all matter, 2) the precise mechanism for non local resonance which permits remote matter to share information in this way.

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<http://www.mi.infm.it/manini/berryphase.html>