

THE REACTIVITY AND CONDUCTIVITY OF METALLIC ALLOYS IN MEDICAL IMPLANTS

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QUANTITATIVE METHODS IN ROCKS AND MINERALS

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ABSTRACT:

Since almost the 1900s, humans have been working to compensate for their disabilities or improve their capabilities through metallic alloy implants, i.e. joint replacements, artificial limbs, and heart pacemakers. However, only a few realize the true effects of these implants and the fact that they are slowly contaminating the human system. From the implant's ability to absorb RF-EM field energy to the increased amount of heat stress placed on the nearby tissues, metallic alloy implants if not carefully monitored can cause some serious damage to their hosts. Although most implants have been considerably researched on and labeled as safe because of their derivation from stainless steels and titanium alloys, some risks still prevail in the form of corrosion and fatigue fracturing.