Bactericidal properties of cometary discharge with inserted grid

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The ability of the DC cometary discharge [1], [2] with inserted grid to decontaminate or sterilize the human skin was observed. First, the guidance of the European Standard [3] was followed: the clean fingertips were artificially contaminated with the suspension of Gram-negative *Escherichia coli* bacteria and treated for various time intervals with the discharge as a disinfectant agent. We achieved 100 % decrease of *E.coli* bacteria number within 4 minutes, as related to the untreated control. However, the best achievement for treating the fingertips covered with the natural physiological microflora consisting mainly of Gram-positive *Staphylococcus epidermidis* was only the decrease of bacteria number to 21.1 % of the original value within 10 minutes. The conclusion is, that:
1. the discharge is able to inactivate Gram-negative bacteria;
2. this ability is substantially lower regarding the Gram-positive ones;
3. the European Standard does not respect this discrepancy.

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References

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