OAK RIDGE NATIONAL LABORATORY
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Insitu Oxygen Conduction Into Internal Combustion Chamber

Disclosure Number

201102586

Technology Summary

The invention consists of using an oxygen conducting material to pump oxygen into the combustion chamber of an internal combustion engine. In one configuration the cylinder liner would generate oxygen, which would provide additional energy for combustion at the cylinder walls. The heated oxygen would reduce irreversible heat losses associated with heating of the combustion reactants. In addition, the heated oxygen barrier would prevent thermal quenching at the walls (also a source of inefficiency). In addition, the heat transfer to the walls would be lowered by the higher thermal resistance of the material.

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