CONVENTIONS AND SYMBOLS

A^a : electromagnetic potential

$A_{(ab)} = \frac{1}{2}(A_{ab} + A_{ba})$: Symmetrization

$A_{[ab]} = \frac{1}{2}(A_{ab} - A_{ba})$: antisymmetrization

B^a : magnetic induction vector.

C_{abcd} : Weyl conformal curvature tensor.

D^a : electric displacement vector.

$ds^2 = g_{ab}dx^a\, dx^b$: metric with signature (-, -, -, +).

$e_a : J^a$: four-electric current.

f : Fluid index.

G_{ab} : polarization magnetization two-form.

g_{ab} : metric tensor.

H_{ab} : electric field magnetic induction two-form.

h^a : magnetic field vector.

$-h^2$: magnitude of the magnetic field.

i : specific enthalpy.

J^*_{abc} : space matter current tensor.

$L^a = G^{ab}u_b$.

l^a : real null vector.

$\bar{m}^a$: complex null vector.

N^a : space like vector.

n^a : real null vector .

p : isotropic pressure .

P_{ab} : three-space projection operator .

P_{abcd} : space matter tensor .

R : Scalar curvature .

R_{ab} : Ricci curvature tensor .

R_{abcd} : Riemann Christoffel curvature tensor.

r : energy density .

S : entropy .

T : proper temperature .

T^{ab} : stress energy tensor for the magnetofluid .

$T^{ab}_{(em)}$: stress energy tensor for the electromagnetic field .

$T^{ab}_{(m)}$: stress energy tensor for thermodynamical perfect fluid.

u^a : four-velocity (time-like vector).

V^a : space-like vector ,

W^a : space-like vector .

$\gamma_{\alpha\beta\delta}$: Ricci rotation coefficients.

ς : proper material density .

ϵ : specific internal energy .

ϵ_{abcd} : Levi Civita's alternating symbol .

μ : magnetic permeability.

Θ : expansion scalar.

w_{ab} : rotation tensor.

σ : electrical conductivity.

σ_{ab} : shear tensor.

Γ^{a}_{bc} : Christoffel symbol of the second kind.

$\pounds$: Lie derivative,

$(,)u_{a;b}$: partial derivative.

$(;)u_{a;b}$: covariant derivative.

$\dot{u}_a$: Covariant derivative along the flow lines.

Greek and Latin indices take values from 1 to 4 while capital letters A, B,--- from 1 to 3 .

The usual summation convention of Einstein is used for repeated indices.