(6.1) Величине $A(j,k,l,m)$, $B(j,k,m)$, $C(j,k,m,n)$ се трансформишу по законима:

а) $\bar{A}(p,q,r,s) = \frac{\partial x^j}{\partial \bar{x}^p}\cdot\frac{\partial \bar{x}^q}{\partial x^k}\cdot\frac{\partial \bar{x}^r}{\partial x^l}\cdot\frac{\partial \bar{x}^s}{\partial x^m} A(j,k,l,m)$

Одавде је: $\overline{A_p^{qrs}} = \frac{\partial x^j}{\partial \bar{x}^p}\cdot\frac{\partial \bar{x}^q}{\partial x^k}\cdot\frac{\partial \bar{x}^r}{\partial x^l}\cdot\frac{\partial \bar{x}^s}{\partial x^m} A_j^{klm}$ → тензор

в) $\bar{B}(p,q,r) = \frac{\partial x^j}{\partial \bar{x}^p}\cdot\frac{\partial x^k}{\partial \bar{x}^q}\cdot\frac{\partial \bar{x}^r}{\partial x^m} B(j,k,m)$

Одавде је: $\overline{B_{pq}^{r}} = \frac{\partial x^j}{\partial \bar{x}^p}\cdot\frac{\partial x^k}{\partial \bar{x}^q}\cdot\frac{\partial \bar{x}^r}{\partial x^m} B_{jk}^{m}$ → тензор

с) $\bar{C}(p,q,r,s) = \frac{\partial \bar{x}^p}{\partial x^j}\cdot\frac{\partial x^q}{\partial \bar{x}^k}\cdot\frac{\partial x^m}{\partial \bar{x}^r}\cdot\frac{\partial x^s}{\partial \bar{x}^n} C(j,k,m,n)$

$\overline{C^p_{krn}} = \frac{\partial \bar{x}^p}{\partial x^j}\cdot\frac{\partial x^q}{\partial \bar{x}^k}\cdot\frac{\partial x^m}{\partial \bar{x}^r}\cdot\frac{\partial x^s}{\partial \bar{x}^n} C^j_{qms}$, тј. треба да је $C(j,q,m,s)$

па $C(p,q,r,s)$ није тензор!

6.5 Ако је ϕ инваријанта, испитати да ли је $\frac{\partial^2\phi}{\partial x^i\partial x^j}$ тензор.

$$\overline{\left(\frac{\partial^2\phi}{\partial x^i\partial x^j}\right)} = \frac{\partial^2\bar{\phi}}{\partial\bar{x}^i\,\partial\bar{x}^j} = \frac{\partial^2\phi}{\partial\bar{x}^i\,\partial\bar{x}^j} = \frac{\partial}{\partial\bar{x}^i}\left(\frac{\partial\phi}{\partial\bar{x}^j}\right) =$$

$$= \frac{\partial}{\partial\bar{x}^i}\left(\frac{\partial\phi(x^1, x^2, \dots x^n)}{\partial\bar{x}^j}\right) = \frac{\partial}{\partial\bar{x}^i}\cdot\left(\frac{\partial\phi}{\partial x^k}\cdot\frac{\partial x^k}{\partial\bar{x}^j}\right) =$$

$$= \frac{\partial}{\partial\bar{x}^i}\left(\frac{\partial\phi}{\partial x^k}\right)\cdot\frac{\partial x^k}{\partial\bar{x}^j} + \frac{\partial\phi}{\partial x^k}\cdot\frac{\partial^2 x^k}{\partial\bar{x}^i\cdot\partial\bar{x}^j} =$$

$$= \frac{\partial}{\partial x^l}\cdot\frac{\partial x^l}{\partial\bar{x}^i}\left(\frac{\partial\phi}{\partial x^k}\right)\frac{\partial x^k}{\partial\bar{x}^j} + \frac{\partial\phi}{\partial x^k}\cdot\frac{\partial^2 x^k}{\partial\bar{x}^i\cdot\partial\bar{x}^j} =$$

$$= \frac{\partial}{\partial x^l}\left(\frac{\partial\phi}{\partial x^k}\right)\frac{\partial x^l}{\partial\bar{x}^i}\cdot\frac{\partial x^k}{\partial\bar{x}^j} + \frac{\partial\phi}{\partial x^k}\cdot\frac{\partial^2 x^k}{\partial\bar{x}^i\cdot\partial\bar{x}^j} =$$

$$= \frac{\partial x^l}{\partial\bar{x}^i}\cdot\frac{\partial x^k}{\partial\bar{x}^j}\cdot\frac{\partial^2\phi}{\partial x^k\partial x^l} + \frac{\partial\phi}{\partial x^k}\cdot\frac{\partial^2 x^k}{\partial\bar{x}^i\cdot\partial\bar{x}^j}$$ $\rightarrow$ није тензор!