1.3 Difficulties associated with application of “classical” weak form

A

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O

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(1.10) $u(x) = \sum_{i=0}^{n} a_i \, _i(x)$

F

approximation functions . I ,

( ). O ( ),

(G). T

seeking approximate solution on a collection of subdomains ( )

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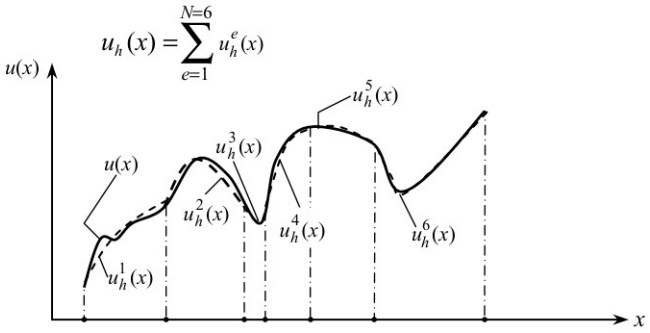

T u **essential** . I

- , ,

a_i $u = \sum_{i=0}^{n} a_i \phi_i$

. T , ,

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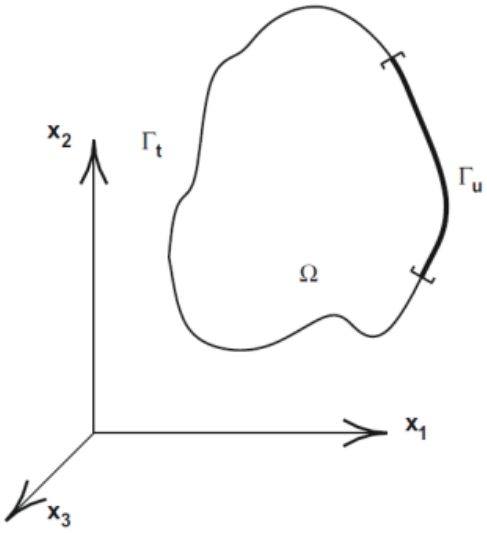

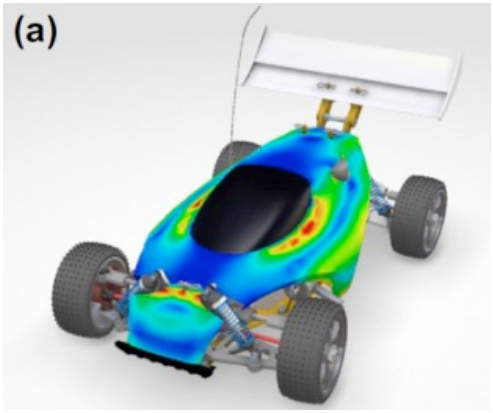

H _____?

A C 2, **the finite element method**

nodal unknowns.

1.4 Chapter Summary

1. T (M R) G : -

in terms of unknown parameters

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2. T **need not be as smooth as solutions of the strong form**, . . **they have weaker continuity requirements** $u(x)$.

3. A **energy functional**

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- , -

(. .,)

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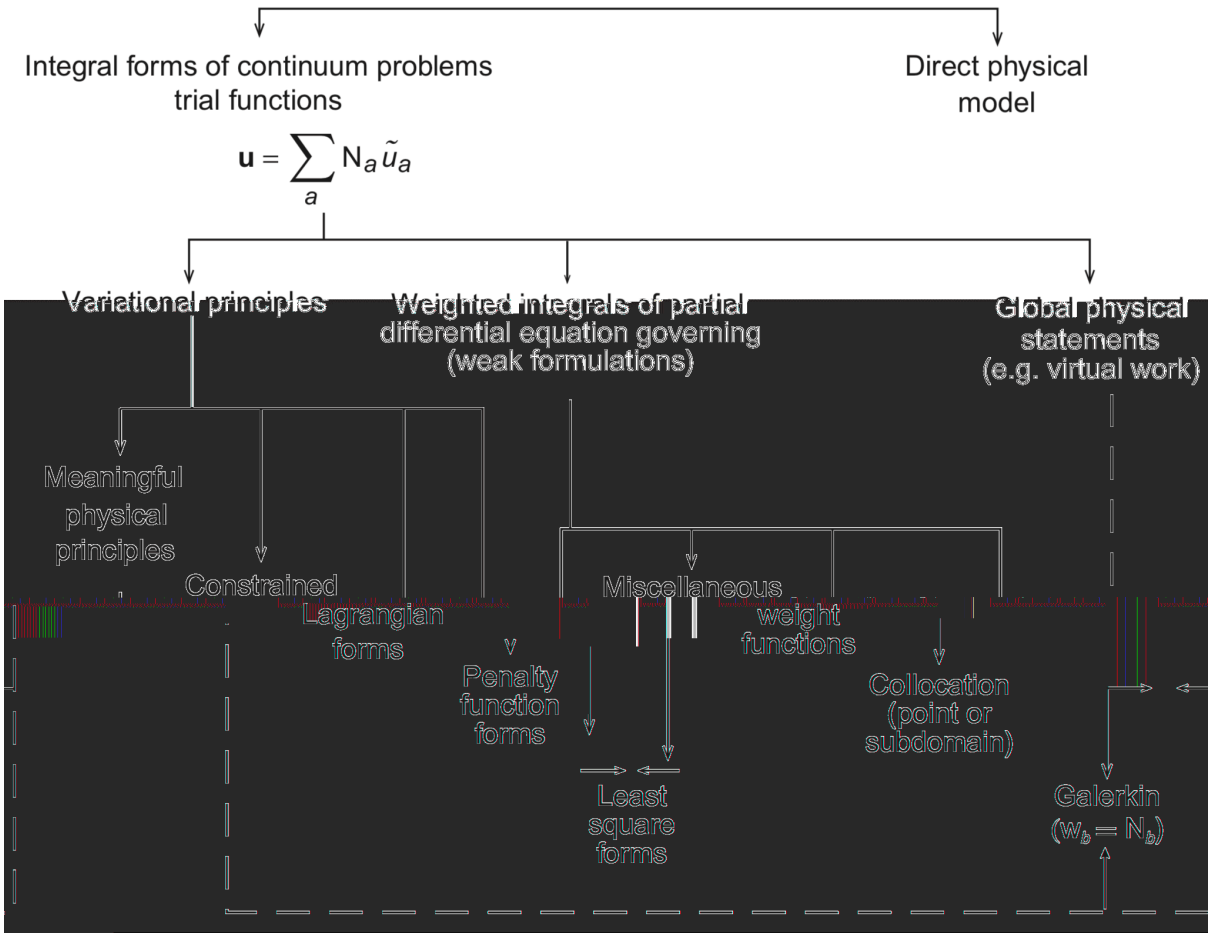
4. T ; . C C

3 4 , T (7 , 2013) .



. G ,

- ( ) - -

(-) . V

- ,

(-) . F ,

any elastic system (linear and nonlinear elastic systems). T ,

. V

- .

5. T : (1)

(2) **admissible** 2D 3D

(. ., G , R R).

6. **The finite element method**

nodal unknowns. T

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