

Contribution de l'homogénéisation à l'étude de
la filtration d'un gaz en milieu déformable à
double porosité. Application à l'étude du
système gaz-charbon

Thèse de l'Université Joseph Fourier
Spécialité Mécanique
1994

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Bibliographie

Adams B.L., Field D.P. (1991):

A Statistical Theory of Creep in Polycrystalline Materials
Acta Metall. Mater., 39, 2405-2418.

Aguilera R. (1987a):

Well Test Analysis of naturally Fractured Reservoirs
SPEFE, Sept., 239-252.

Aguilera R. (1987b):

Multiple-Rate Analysis for Pressure-Buildup Tests in Reservoirs with Tectonic, Regional and Contractional Natural Fractures
SPEFE, Sept., 253-260.

Arbogast T. (1993a):

Gravitational Forces in Dual-Porosity Systems: I. Model Derivation by Homogenization
Transport in Porous Media, 13 (2), 179-203.

Arbogast T. (1993b):

Gravitational Forces in Dual-Porosity Systems: II. Computational Validation of the Homogenized Model
Transport in Porous Media, 13 (2), 205-220.

Arbogast T., Douglas Jr., Hornung U (1990):

Derivation of the Double Porosity Model of Single Phase Flow via Homogenization Theory
SIAM J. Math. Anal., 21, 823-836.

Auriault J.-L. (1980):

Dynamic Behavior of Porous Medium Saturated by a Newtonian Fluid *Int. J. Engng. Sci.*, 18, 775-785.

Auriault J.-L. (1983):

Effective Macroscopic Description for Heat Conduction in Periodic Composites
Int. J. Heat and mass Transfer, 26, 861-869.

Auriault J.-L. (1987):

Non Saturated Deformable Porous Media: Quasi_Statics
Transport in Porous Media, 2 (1), 45-64.

- Auriault J.-L. (1991a):
 Is an Equivalent Macroscopic Decscription Possible?
Int. J. Engng. Sci., 29 (7), 785-795.
- Auriault J.-L. (1991b):
Mécanique des milieux hétérogènes
 Cours de troisième cycle, INPG, UJF.
- Auriault J.-L., Bonnet G. (1987a):
Physique des milieux hétérogènes
 Cours de troisième cycle, INPG, UJF.
- Auriault J.-L., Bonnet G. (1987b):
 Surface Effects in Composite Materials: Two Simple Examples
Int. J. Engng. Sci., 25(3), 307-323.
- Auriault J.-L., Bonnet G., Lebaigue (1989):
 Dynamics of Two Immiscible Fluids Flowing through Deformable Porous Media
Transport in Porous Media, 4, 105-128.
- Auriault J.-L., Boutin C. (1992):
 Deformable Porous Media with Double Porosity. Quasi-Statics I: Coupling Effects
Transport in Porous Media, 7, 63-82.
- Auriault J.-L., Boutin C. (1993a):
 Deformable Porous Media with Double Porosity. Quasi-Statics II: Memory Effects
Transport in Porous Media, 10, 153-169.
- Auriault J.-L., Boutin C. (1993a):
 Deformable Porous Media with Double Porosity. Quasi-Statics III: Acoustics
Transport in Porous Media, à paraître.
- Auriault J.-L., Lewandowska J. (1993a):
 Homogenization Analysis of Diffusion and Adsorption Macrotransport in Porous Media: Macrotransport in the Absence of Advection
J. Géotechnique, 43 (3), 457-469.
- Auriault J.-L., Lewandowska J. (1993b):
 Macroscopic Modelling of Pollutant Transport in Porous Media
Arch. Mech., 45 (1), 51-64.

- Auriault J.-L., Royer P. (1993a):
 Double Conductivity Media: A Comparison between Phenomenological and Homogenization Approaches
Int. J. Heat mass Transfer, 36 (10), 2613-2621.
- Auriault J.-L., Royer P. (1993b):
 Ecoulement d'un gaz dans un milieu à double porosité
Compte-Rendu à l'Académie des Sciences, Paris, 317 (II), 431-436.
- Auriault J.-L., Sanchez-Palencia E. (1977):
 Etude du comportement macroscopique d'un milieu poreux saturé déformable
Journal de Mécanique, 16, 575-603.
- Auriault J.-L., Strzelecki T., Bauer J., He S. (1990):
 Porous Deformable media saturated by a Very Compressible Fluid: Quasi_Statics
Eur. J. Mech. A/Solids, 9 (4), 373-392.
- Avagan E.A. (1967a):
 Some Approximate Solutions to problems of Flow in Fracture-Pore Medium
Izv. Akad. Nauk., USSR, Mekh. Zidk. i Gasa, 4, 108-113 (en russe).
- Avagan E.A. (1967b):
 Axisymmetrical Problems of Unsteady State Flow of Fluids in naturally Fractured Reservoirs
Trudi DNII, 50, 11-22 (en russe).
- Baker W.J. (1955):
 Flow in Fissured Formations
Proc. Fourth World Petroleum Congress, Section II, 379-393.
- Ban A. (1961):
 Determination of Time Lag of Build-Up of Pressure in Fractured Reservoirs
Izv. Akad. Nauk, USSR, Otdel Tech. nauk., Mekh. i Mash., 4, 38-42 (en russe).
- Barenblatt G.I. (1963):
 On a Certain Boundary-Value Problem for the Equations of Seepage of a Liquid in Fissured Rocks
PMM, 27 (2), 348-350.

- Barenblatt G.I., Entov V.M., Ryzhik V.M. (1990)
Theory of Fluid Flows through Natural Rocks
 Kluwer academics Publishers, Dordrecht, Boston, London.
- Barenblatt G.I., Zheltov I.P. (1960):
 On Fundamental Equations of Flow of Homogeneous Liquids in Naturally
 Fractured Rocks
Dokl. Akad. Nauk., USSR, 132 (3), 545-548 (en russe).
- Barenblatt G.I., Zheltov I.P., Kochina I.N. (1960):
 Basics Concepts in the Theory of Seepage of Homogeneous Liquids in Fis-
 sured Rocks
PMM, 24 (5), 852-864.
- Bear J. (1972):
Dynamics of Fluids in Porous Media
 America Elsevier, New York.
- Bensoussan A., Lions J.-L., Papanicolaou G. (1978):
Asymptotic Analysis for Periodic Structures
 North Holland Publishing Company, Amsterdam.
- Berveiller M. and Zaoui A. (1979):
 An extension of the Self-Consistent Scheme to Plastically Flowing Poly-
 crystals
J. Mech. Phys. Solids, 26, 325.
- Berveiller M. and Zaoui A. (1981):
 A Simplified Self-Consistent Scheme for the Plasticity of Two-Phase Metals
Res. Mech. Letters, 1, 119.
- Berveiller M. and Zaoui A. (1984):
 Extended Self-Consistent Schemes
Eurmec, 183.
- Bibby R. (1981):
 Mass Transport of Solutes in Dual-Porosity Media
Water Resources Research, 1075-1081.
- Biot M.A. (1941):
 General Theory of Three-Dimensional Consolidation
J. Appl. Phys., 12 (2), 155-164.

- Biot M.A. (1955):
 Theory of Elasticity and Consolidation for a Porous Anisotropic Solid
J. Appl. Phys., 26 (2), 182-185.
- Biot M.A. (1956):
 Theory of Propagation of Elastic Waves in A Fluid-Saturated Porous Solid.
 I. Low Frequency Range
J. Acoust. Soc. Am., 28, 168-178.
- Boccara N. (1984):
Analyse Fonctionnelle
 Editions marketing, Collection Eyrolles.
- Bondarev E.A. and Nicolaevsky V.N. (1966):
 Formulation of Problems in Theory of Seepage of Homogeneous Liquid in
 Naturally Fractured Porous Media
NTS po Dabiche Neft, VNII, 30, Gostoptechidzat, Moscou, 29-33 (en
 russe).
- Boulton N.S., Streltsova T.D. (1977):
 Unsteady Flow to a Pumped well in a Fissured Water-Bearing Formation
J. Hydrology, 35, 257-270.
- Bourdet D. (1985):
 Pressure Behavior of Layered Reservoirs with Crossflow
Paper SPE 13628 presented at the SPE 1985 California Meeting, Bakersfield, californie, 27-29 Mars.
- Bourdet D., Gringarten A.C. (1980):
 Determination of Fissured Volume and Block Size in Fractured reservoirs
 by Type-Curve Analysis
Paper SPE 9293 presented at the 55th SPE Annual Technical Conference and Exhibition, Dallas, TX, Sept. 21-24.
- Brenner H. (1980):
 Dispersion Resulting from Flow through Spacially Periodic Porous Media
Philosophical Transaction of the Royal Society of London, 81-133.
- Brezis H. (1992):
Analyse Fonctionnelle. Théorie et Applications
 Masson, Paris, Milan, Barcelone, Bonn.

- Brzóska K., Ceglarska-Stefańska G., Czapliński A. (1991):
the Sorption and Dilatometric Investigation of Coal of Non-Outburst beds
Archives of Mining Sciences, 63 (3), 279-288.
- Ceglarska-Stefańska G. (1986):
Investigations of Adsorption, Dilatometry and Strength of Low rank Coal.
II. Low Pressure Adsorption of CO₂ and water Vapour on Coal
Archives of Mining Sciences, 31 (3), 569-580.
- Ceglarska-Stefańska G., Czapliński A., Brzóska K. (1988):
An Influence of the CO₂ Pressure on Adsorptional and Dilatometric Prop-
erty of High Rank Coals
Archives of Mining Sciences, 33, 299-311.
- Ceglarska-Stefańska G., Czapliński A., Brzóska K. (1993):
Repeated Methane Sorption on Hard Coal at the Limited Variations of the
Outer Dimensions of the Samples
Archives of Mining Sciences, 3.
- Ceglarska-Stefańska G., Czapliński A., Hołda (1993):
Sorption à basse et haute pression d'azote, de dioxyde de carbone et de
méthane sur du charbon houiller
Górnictwo, 8, (1), (en polonais).
- Ceglarska-Stefańska G., Jagiełło J. (1988):
An Application of Vacancy Theory of Adsorption to the Analysis of Results
of Simultaneous Sorption and Dilatometric Investigations of the Natural
Coal-CO₂ System at High Pressures
Archives of Mining Sciences, 33 (3), 369-378.
- Chen Z.X. (1983) : Exact Solution to the Problem of Flow of Slightly Com-
pressible Fluids in a Bounded Confined “Fracture-Pore” medium and its
Application to Well Testing
Applied Mathematics and Mechanics (version anglaise), 4 (3), 435-477.
- Chen Z.X. (1989) : Transient Flow of Slightly Compressible Fluids through
Double-Porosity, Double-Permeability Systems - A State-of-the-Art Re-
view
Transport in Porous Media, 4, 147-184.
- Chen Z.X., Jiang L.S. (1980):
Exact Solution for the System of Flow Equations through a Medium with
Double-Porosity
Science Sinica, 28 (7), 880-896.

- Chen Z.X., Serra K., Reynolds A.C., Raghavan R. (1985):
 Pressure Transient Analysis Methods for Bounded Naturally Fractured Reservoirs
Soc. Pet. Eng. J., June, 451-464; Trans. AIME 29.
- Chen Z.X., Yeh N., Raghavan R., Reynolds A.C. (1984): Pressure Response at Observation Wells in Fractured Reservoirs
Soc. Pet. Eng. J., Dec., 628-638; Trans. AIME 277.
- Chudzik W., Klinik J., Lason M., Nessler A., Nódzeński A. (1984):
 Variations de la température du système charbon-CO₂ lors de la sorption et de la désorption du dioxyde de carbone
Górnictwo, 8 (1), (en polonais).
- Cinco-Ley H., Samaniego F.V. (1982): Pressure Transient Analysis for Naturally Fractured Reservoirs
Paper SPE 11026 presented at the 57th SPE Annual Fall technical Conference and Exhibition, New Orleans, LA, Sept. 26-29.
- Clerc J.P., Giraud G., Roussenq J., Blanc R., Carton J.P., Guyon E., Ottavi H., Stauffer D. (1983) :
 La percolation - Modèles, simulations analogiques et numériques
Annales de Physique, 8, 3-105.
- Crawford G.E., Hagedorn A.R., Pierce A.E. (1976):
 Analysis of Pressure Buildup Tests in a Naturally Fractured Reservoir
J. Pet. Tech., Nov., 1295-1300.
- Czapliński A. (1986a):
 Investigations of Adsorption, Dilatometry and Strength of Low Rank Coal.
 I. The Apparatus and the Method of Simultaneous Sorption and Dilatometry Measurements
Archives of Mining Sciences, 31 (3), 563-568.
- Czapliński A. (1986b):
 Investigations of Adsorption, Dilatometry and Strength of Low Rank Coal.
 III. Investigations of Simultaneous Sorption together with Expansion and Desorption together with Contraction Kinetics of Coal under the Influence of Carbone Dioxyde
Archives of Mining Sciences, 31 (3), 581-589.
- Czapliński A. (1986c):
 Investigations of Adsorption, Dilatometry and Strength of Low Rank Coal.

IV. Investigations of Simultaneous Sorption together with Expansion and Desorption together with Contraction Kinetics of Coal under the Influence of Methan
Archives of Mining Sciences, 31 (3), 591-594.

Czapliński A., Gustkiewicz J., Hołda S. (1986):
An Apparatus for Investigations for the Changes of Stresses and Strains of Rocks Samples under Sorption
Archives of Mining Sciences, 31 (4), 703-516.

Darcy H. (1856):
Les fontaines publiques de la ville de Dijon
V. Dalmont, Paris, 1856.

Dautray R., Lions J.L. (1988):
Analyse mathématique et calcul numérique pour les sciences et les techniques. 4. Méthodes variationnelles
Masson, Paris, Milan, Barcelone, Mexico.

Deruyck B.G., Bourdet D.P., Da Prat G., Ramev H.J. Jr (1982):
Interpretation of Interference Tests in Reservoirs Double Porosity Behavior-Theory and Field Examples
Paper SPE 11025 presented at the 57th SPE Annual Technical Conference and Exhibition, new Orleans, LA, Sept. 26-29.

De Swaan A. (1976):
Analytic Solutions for Determining Naturally Fractured Reservoirs Properties by Well Testing
Soc. pet. Eng. J., June, 117-122; AIME 261.

Dontsov K.M., Boyrchuk V.T. (1971):
Effect of Characteristics of Fractured Media on Pressure Buildup Behavior
Izv. Vyssh. Uchebn. Zaved., Neft i Gas, 1, 42-46 (en russe).

Duguid J.O., Lee P.C.Y. (1977):
Flow in Fractured Porous media
Water Resour. Res., 13 (3), 558-566.

Dykhuizen R.C. (1990):
A New Coupling Term for Dual-Porosity Models
Water Resour. Res., 26, 351-356.

- Dykhuizen R.C. (1991):
 Reply to Comment by Maloszewski and Zuber
Water Resour. Res., 27, 2153.
- Dyrga L., Żolcinska J., Mnich K. (1990):
 Experimental Investigations of the Flow of Gases and Radon Mixture through the Hard Coal
Archives of Mining Sciences, 35 (1), 45-46.
- Earlougher R.C. Jr. (1977):
Advances in Well Test Analysis
 Monograph Series, 5, 5, Society of Petroleum Engineers of AIME, Dallas.
- Elomri A., Sidoroff F. (1991):
 Homogenization of a Two-Phase Elastic Layered Composite
Compte-Rendu à l'Académie des Sciences, Paris, 312 (II), 425-430.
- Ene H.I. (1981):
 On the Thermodynamic Theory of Mixtures
Int. J. Engng. Sci., 19, 905-914.
- Ene H.I., Molicescu-Receanu M. (1984):
 On the Viscoelastic Behaviour of a Porous saturated Medium
Int. J. Engng. Sci., 22 (3), 243-246.
- Ene H.I., Sanchez-Palencia E.:
 Equations et phénomènes de surface pour l'écoulement dans un modèle de milieu poreux
Journal de Mécanique, 14 (1), 73-108.
- Ershagi I., Aflaki R. (1985):
 Problem in Characterization of Naturally Fractured Reservoirs from Well Test Data
Soc. Pet. Eng. J., June, 445-450; Trans. AIME 279.
- Eshelby J.D. (1957):
 The Determination of the Elastic Filed of an Ellipsoidal Inclusion and Related Problems
Proc. Roy. Soc., London, A241, 376.
- Eshelby J.D. (1961):
Elastic Inclusions and Inhomogeneities
 Prog. Sol. Mech., II, I.N. Snedon and R. Hill (ed), 87, North-Holland Publishing Company, Amsterdam.

- Garbacz J.K., Rychlicki G. (1984):
 Adsorption de gaz : Quelques aspects théoriques et méthodes de mesures
 Rapport de l'Université Nicolas Copernic, Toruń (en polonais).
- Gawor M., Rusz J., Smolarski A.Z. (1988):
 Etude expérimentale de la désorption rapide du gaz dans le charbon associée au coup de poussier
XIIème Colloque International "Directions pour la Prévention des Coups de Poussier en Exploitation Souterraine", 41-58, Nowa Ruda, Radków (en polonais).
- Gelhar L.W. (1987):
 Stochastic Analysis of Solute Transport in Saturated and Unsaturated Porous Media
 Fundamentals of Transport in Porous Media, Eds. J. Bear, Y. Corapcioglu, N. Nijhoff Publishers, 657-700.
- Gilbert F. (1984):
 Description des sols saturés par une méthode d'homogénéisation
Ecole d'Hiver, CNRS, IMG, Rhéologie des géomatériaux, Aussois, 28 novembre-5 décembre.
- Gilbert F. (1987a):
 Description des sols saturés par une méthode d'homogénéisation
Manuel de Rhéologie des Ponts et Chaussées, 317-333.
- Gilbert F. (1987b):
Descriptions thermo-mécaniques de milieux à plusieurs constituants et application aux milieux poreux saturés
 Thèse de Docteur-ès-Science, Université Pierre et Marie Curie, Paris VI.
- Gringarten A.C. (1979):
 Flow Test Evaluation of Fractured Reservoirs
Paper presented at the Symposium on Recent Trends in Hydrology, Geological Soc. of America, Berkeley, CA, Feb. 8-9.
- Gringarten A.C. (1984):
 Interpretation of Tests in Fissured and Multilayered Reservoir with Double-Porosity Behavior: Theory and Practice
J. Pet. Tech., April, 549-564; Trans. AIME 277.
- Hashin Z., Shtrikman S. (1963):
 A Variational Approach to the Theory of the Elastic Behaviour of Multi-

phase Materials

J. Mech. Phys. Solids, 11, 127-140.

Hershey A.V. (1954):

The Elasticity of an Isotropic Aggregate of Anisotropic Cubic Crystals
J. Appl. Mech., 21, 236.

Hill R. (1952):

The Elastic Behaviour of a Crystalline Aggregate
Proc. Phys. Soc. Lond., A 65, 349-354.

Hołda S. (1986):

Investigations of Adsorption, Dilatometry and Strength of low Rank Coal.
V. Investigations of the Influence of Gas or Vapour Sorption on Mechanical Strength of Coal
Archives of Mining Sciences, 31 (3), 599-607.

Hornung U, Showalter R.E. (1990):

Diffusion Models for Fractured Media
J. Math. Anal. Appl., 147, 69-80.

Huitt J.L. (1956):

Fluid Flow in Simulated Fractures
J. Am. Inst. Chem. Eng., 2, 259-264.

Iwakuma T., Nemat-Nasser S. (1984):

Finite Elastic-Plastic Deformation of Polycrystalline Metals
Proc. Roy. Soc., London, A394, 87.

Jiang J.G. (1977):

Exact Solution to Problem of Flow of Fluid in Naturally Fractured Reservoirs
Mechanics, 4, 263-269.

Kaczmarek J., Łydzba D. (1990): Etat des contraintes dans un milieu gaz-charbon aux alentours d'une taille
Studio Geotechnica et Mechanica, 12 (1-2), 23-30.

Kazemi H. (1969):

Pressure Transient Analysis of Naturally Fractured Reservoirs with Uniform Fracture Distribution
Soc. Pet. Eng. J., Dec., 451-462; Trans. AIME 246.

- Kazemi H., Seth M.S., Thomas G.W. (1969):
 The Interpretation of Inbterference Tests in Naturally Fractured reservoirs
 with Uniform Fracture Distribution
Soc. Pet. Eng. J., Dec., 463-472; Trans. AIME 246.
- Kröner E. (1958):
 Berechnung der elastischen konstanten des vielkristalls aus den konstanten
 des einskristalls
Z. Phys., 151-504.
- Kröner E. (1961):
Acta Metall., 9, 155.
- Kröner E. (1972):
Statistical Continuum Mechanics
 CISM Course No 92, Springer, Wien, New-York.
- Kröner E. (1978):
 Sel-Consistent Scheme and Graded Disorder in Polychristal Elasticity
J. Phys. F., 8, 2261.
- Kröner E. (1980):
 Linear Properties of Random Media: The Systematic Theory
Comportement Rhéologique et Structure des Matériaux, C.R. 15ème Coll. GFR, Paris.
- Kröner E. (1986):
 Modelling Small Deformations of Polycrystals
 Ch. 8, J. Gittus, J. Zarka Eds., Elsevier Appl. Sci. Publ., London.
- Kutliarov V.S. (1967):
 Determination of Parameters of Naturally Fractured Reservoirs from Data
 of Unsteady Sate Flow of Liquid towards Wells
Trudi VNII, 50, Gostoptechidzat, Moscou, 109-117 (en russe).
- Lai C.H., Bodvarsson G.S., Tsang C.F., Witherspoon P.A. (1983):
 A New Model for Well Test Data Analysis for naturally Fractured Reser-
 voirs
Paper SPE 11688 prsented at the 1983 SPE California Regional Meeting, Ventura, CA, March 23-25.
- Levy T. (1979):
 Propagation of Waves in a Fluif saturated Porous Elastic Solid
Int. J. Engng. Sci., 17, 1005-1014.

- Levy T. (1981):
 Milieu élastique soumis à des forces volumiques de répartition périodique fine
Journal de Mécanique, 20 (3), 497-508.
- Levy T. (1990):
 Filtration in a Porous Fissured Rock: Influence of the Fissure Connexity
Eur. J. Mech. B/Fluids, 9 (4), 309-327.
- Levy T., Sanchez-Palencia E. (1975):
 On Boundary Conditions for Fluid Flow in Porous Media
Int. J. Engng. Sci., 13, 923-940.
- Levy T., Sanchez-Palencia E. (1977):
 equations and Interface Conditions for Acoustic Phenomena in Porous Media
Journal of Mathematical Analysis and Applications, 61 (3), 813-834.
- Litwiniszyn J. (1989):
 Reliability of Investigation Results of Rock-Mass Properties
Mining Science and Technology, 9, 39-45.
- Liu X.N., Chen Z.X., Jiang L.S. (1987):
 Exact Solution of Double-Porosity, Double-Permeability Systems Including Wellbore Storage and Skin Effects
Paper SPE 16849 presented at the 62nd SPE Annual Conference and Exhibition, Dallas, Sept. 27-30.
- Lomize G.M. (1951):
 Seepage through Fractured Rocks
Gosenergoizdat, Moscou, (en russe).
- Luan Z.A. (1981):
 Problem of Fluid Flow through a Double-Porosity Medium Including the Effects of After Flow and Skin
J. South-Western Petroleum College, 1, 50-58.
- Lydźba D. (1990):
Etat de contrainte et de rupture dans un milieu gaz-charbon aux alentours d'une taille
 Thèse de doctorat, Ecole Polytechnique de Wrocław, Institut de Géotechnique (en polonais).

- Marle C.M. (1967):
 Ecoulements monophasiques en milieux poreux
Revue Institut Français du Pétrole, 22 (10), 1471-1509.
- Marle C.M. (1982):
 On Macroscopic Equations Governing Multiphase Flow with Diffusion and Chemical Reactions in Porous Media
Int. J. Engng. Sci., 20 (5), 643-662.
- Matheron G. (1965):
Les variables régionalisées et leur estimation
 Thèse de Docteur-ès-Sciences, Paris.
- Matheron G. (1967):
Elements pour une théorie des milieux poreux
 Masson et Cie.
- Pressure Buildup and Flow Tests in Wells*
 Monograph Series, 1, Society of Petroleum Engineers of AIME, Dallas.
- McNabb A. (1978):
 Factorizable “Fruitcake” Boundary Value Problem
Supplement to Newsletter, 12, The New Zealand mathematical Society, 9-12.
- McGuinness M.J. (1986):
 Pressure Transmission in a Bounded Randomly Fractured reservoir of Single-Phase
Transport in Porous Media, 1, 371-397.
- Mei C.C., Auriault J.-L. (1991):
 The Effect of Weak Inertia on the Flow through a Porous Medium
Fournal of Fluid Mechanics, 222, 647-663.
- Milewska-Duda J. (1987):
 Adsorptive-Absorptive Mathematical Model of Sorption Process in Coal
Archives of Mining Sciences, 32 (2), 267-277.
- Moench A.F. (1984):
 Double-Porosity Models for a Fissured Groundwater reservoir with Fracture Skin
Water resour. res., 20 (7), 831-846.

- Molinari A., Canova G., Ahzi S. (1987):
 A Self-Consistent Approach of the Large Deformation Polycrystal Viscoplasticity
Acta Metall., 35, 2983-2994.
- Nemchinov I.V. (1960):
 Some Transient Problems of Heat Transfer by Radiation
PMTF, 1.
- Ozkan E., Ohaeri U., Raghavan R. (1987):
 Unsteady Flow to a Well Produced at a Constant Pressure in a Fractured Reservoir
SPEFE, JUNE, 186-200.
- Paterson L. (1986):
 A Model for Outbursts in Coal
Technical Note. Int. J. Rock Mech. Min. Sci., 23 (4), 327-332.
- Pirson S.J. (1953):
 Performance of Fractured Oil Reservoirs
Assoc. Petrol. Geologists, 37 (2).
- Pollard P. (1969):
 Evaluation of Acid Treatments from Pressure Build-Up Analysis
Trans. AIME, 216, 38-43.
- Pruess K.P., Wu Y.S. (1989):
 A New Semi-Analytical Method for Numerical Simulation of Fluid and Heat Flow in Fractured Reservoirs
paper SPE 18426, Soc. Pet. Eng., Dallas, Texas.
- Quintard W., Whitaker S. (1987):
 Ecoulement monophasique en milieux poreux : effet des hétérogénéités locales
Journal de Mécanique Théorique et Appliquée, 6 (5), 691-726.
- Reuss A. (1929):
 Berechnung der Fliessgrenze von mischkristallen auf grund der plasticitätsbedingung für eingristalle
Z. Ang. Math. Mech., 9.
- Reynolds A.C., Chang W.I., Yeh N., Raghavan R. (1985):
 Wellbore Pressure Response in Naturally Fractured Reservoirs
J. Pet. Tech., May, 908-920; *Trans. AIME* 279.

- Royer P. (1991):
Milieux à double porosité : comparaison de deux théories. Vers une modélisation par une méthode d'homogénéisation
 Mémoire de DEA, Université Joseph Fourier.
- Royer P., Auriault J.-L. (1992):
 Very Compressible Fluid Flow through a Porous Rigid Medium with Double Porosity
Studia Geotech. et Mech., 13 (1-2), 65-77.
- Royer P., Auriault J.-L. (1994):
 Transient Quasi-Static Gas Flow through a Rigid Porous Medium with Double Porosity
Transport in Porous Media, 17 (1), 33-57.
- Rubinstein L.I. (1984):
 Process of Conduction of heat in Heterogeneous Media
Izv. Akad. Nauk., USSR, Ser. Geogr. i Geofiz., 12 (1), 27-45 (en russe).
- Sanchez-Palencia, E. (1980):
Non-Homogeneous Media and Vibration Theory
 Lecture Notes in Physics 127, Springer-Verlag, Berlin.
- Scheidegger A.E. (1974):
The Physics of Flow through Porous Media
 3ème Ed., University of Toronto Press.
- Serra K., reynolds A.C., Raghavan R. (1983):
 New Pressure Transient Analysis Meyhods for Naturally Fractured Reservoirs
Soc. Pet. Eng. J., dec., 2271-2283; Trans. AIME 275.
- Shalimov B.V. (1966):
 On Interference of Wells in Double Porosity Reservoirs
Izv. Akad. Nauk. USSR, Mekh. Zidk. i Gasa, 4, 143-147 (en russe).
- Siemej J., Rajtar J., Oljossy A. (1989):
 Simulation of Gas Outflow from Porous Fissured Media
Archives of Mining Sciences, 34 (1), 119-128.
- Streltsova T.D. (1983):
 Well Pressure Behavior of a Naturally Fractured Reservoir
Soc. pet. Eng., Oct., 769-780; Trans. AIME 275.

- Terzaghi K. (1925):
 Principles of Soils Mechanics—Phenomena of Cohesion of Clays
Engineering News-Record, 95 (19), 1925, 742-746.
- Theis C.V. (1935):
 The Relation between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage
Trans. Amer. Geophys. Union, 16, 519-524.
- Turgeman S., Pastor J. (1987):
 Comparaison des charges limites d'une structure hétérogène et homogénéisée
Journal de Mécanique th. et Appl., 6 (1), 121-143.
- Uldrich D.O., Ershagi I. (1979):
 A Method for Estimating the Interporosity Flow Parameter in Naturally Fractured Reservoirs
Soc. pet. Eng. J., Oct., 324-332; Trans. AIME 267.
- Van Golf-Racht T.D. (1984):
Fundamentals of Fractured Reservoir Engineering
 Developments in Petroleum Science, 12, Elsevier Scientific, Amsterdam, Oxford, New York.
- Vermeulen T. (1953):
 Theory of Irreversible and Constant-Pattern
Industrial and Engng Chemistry, '((8), 1664-1670.
- Voigt W. (1887):
 Theoretische studien über die elastizitätsverhältnisse der kristalle
Abh. Ges. Wiss. Göttingen, 34, 1-100.
- Warren J.R., Root P.J. (1963):
 The Behavior of Naturally Fractured Reservoirs
Soc. Pet. Eng. J., Sept., 245-255; Trans. AIME 28.
- Whitaker S. (1986):
 Flow in Porous Media I: A Theoretical Derivation of Darcy's Law
Transport in Porous Media, 1, 3-25.
- You J., Chen Z.X. (1986):
 An Improvement in the Determination of Interporosity Flow Parameter in Double Porosity Medium
Petroleum Exploration and Development, 13 (3), 56-62.

Zaoui A. (1985):

Du microscopique au macroscopique : le cas de la plasticité cristalline
Acte du 7ème Congrès Français de Mécanique

Zaoui A. (1987):

Approximate Statistical Modelling and Applications *Lecture Note in Physics*, 272, “*Homogenization Techniques for Composite Media*”, Springer-Verlag, Berlin,, 338-397.

Zimmerman R.W., Chen G., Hadgu T., Bodgarsson G.S. (1993):

A Numerical Dual-Porosity Model with Semianalytical Treatment of Fracture/Matrix Flow
Water Resour. Res., 29 (7), 2127-2137.